

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

REAL VIEW, LLC

Plaintiff,

v.

20-20 TECHNOLOGIES, INC.,

Defendant.

CIVIL ACTION NO. 07-12157

20-20 TECHNOLOGIES, INC.,

Counterclaim Plaintiff

v.

REAL VIEW, LLC

Counterclaim Defendant, and

BORIS ZELDIN and LEONID PERLOV

Additional Party Defendants in
Counterclaim

AFFIDAVIT OF PROFESSOR RANDALL DAVIS FOR 20-20 TECHNOLOGIES, INC.

I, Professor Randall Davis, state as follows:

1. My name is Randall Davis. I am a Professor of Computer Science at the Massachusetts Institute of Technology. I have been retained by counsel for 20-20 Technologies to examine and compare 20-20 Design and ProKitchen.

2. In connection with this case, I have completed an initial report on May 5, 2009 (“Davis Report”) and a rebuttal report on July 1, 2009 (“Davis Rebuttal”), addressing arguments made by Real View, LLC, Boris Zeldin and Leonid Perlov (collectively, “Real View”) in response to my findings.

3. My background, experience and a list of case involvement is attached as Exhibit A. In 1990, I served as the Court appointed expert in Computer Assocs. Int'l, Inc. v. Altai, Inc., 775 F.Supp. 544 (E.D.N.Y. 1991), aff'd 982 F.2d 693 (2d Cir.1992), and it was my report to the judge in that case that lead in part to the articulation of the abstraction-filtration-comparison test. As the appeals court indicated in specifying the test:

In ascertaining substantial similarity under this approach, a court would first break down the allegedly infringed program into its constituent structural parts. Then, by examining each of these parts for such things as incorporated ideas, expression that is necessarily incidental to those ideas, and elements that are taken from the public domain, a court would then be able to sift out all non-protectable material. Left with a kernel, or possibly kernels, of creative expression after following this process of elimination, the court's last step would be to compare this material with the structure of an allegedly infringing program. The result of this comparison will determine whether the protectable elements of the programs at issue are substantially similar so as to warrant a finding of infringement.

982 F.2d at 706.

4. As a supplement to this affidavit and my live testimony, I am preparing a chart showing all of the similarities between 20-20 Design and ProKitchen, outlining: the overall idea; the manner of expression of that idea; and where appropriate, a comparison to other kitchen design software programs that exhibit that same idea through a different manner of expression. This chart will be submitted on or before July 22, 2009.

5. I have reviewed the following submissions by Real View:

Real View LLC, Boris Zeldin and Leonid Perlov's Motion for Summary Judgment
Real View LLC, Boris Zeldin and Leonid Perlov's Concise Statement of Materials [sic]
Facts in Support of Motion for Summary Judgment
Real View LLC, Boris Zeldin and Leonid Perlov's Memorandum in Support of Motion
for Summary Judgment
Affidavit of Boris Zeldin in Support of Real View LLC's Motion for Summary
Judgment, along with Appendices "Zeldin Affidavit"
List of Alleged Similarities in 20-20 Technologies, Inc's Expert Report
Expert Disclosure of Daniel H. Abbott on Behalf of Real View LLC, Boris Zeldin and
Leonid Perlov ("Abbott Report")
(collectively, "Real View Documents")
ProKitchen Versions 2.0 and 3.0

SUMMARY OF OVERALL FINDINGS

6. An abstraction, filtration, comparison analysis of the two programs demonstrates substantial similarities at the level of detailed expression in the two programs.

7. The user interface of ProKitchen is substantially similar to that of 20-20 Design. The similarities range from the selection and organization of elements of the overall layout of the screen, down to selection and arrangement of minor details of both programs.

8. The similarities are extensive enough that familiarity with one program is sufficient to enable facile use of the second with almost no additional training. This is manifestly not the case for most programs, even those designed to do the same task.

9. The similarities are extensive enough that ProKitchen might easily be thought of by a user as a different version of 20-20 Design. That is, the two programs share as much of their user interface design as is routinely found between two subsequent versions of the same program produced by one company (e.g., the difference between Microsoft's Word 2000 and Word 2003).

10. The detailed expression common to the two programs goes much beyond menu commands, and concerns among other things, issue of choice, selection, and arrangement of expressive elements of the screen layout, display and appearance.

DIFFERENCES IN COMPUTING ENVIRONMENTS FROM DOS TO WINDOWS

11. I am familiar with Lotus 1-2-3 program, the software at issue in Lotus Development Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir.1995). The menu command hierarchy discussed in the Lotus case consisted of single word English text commands organized hierarchically, and displayed in a two-line menu across the top of the screen.

12. This is vastly different from the way computers operate in today's Windows environment. Menus today are far more complex and expressive works with graphical depictions of icons, sub-windows, context-sensitive pop-up menus, etc. As will be shown in the discussion below, the issues in

this case concern far more than the simple, single English word type of menu commands that are discussed in the Lotus case.

BACKGROUND OF THE PROGRAMS

13. Both of these programs fit into a common hierarchy of program types: they are computer-aided design (CAD) systems, aimed at architectural design more specifically, and aimed at kitchen design more specifically still. The market for these programs is largely computer-aided sales (“CAS”), not computer aided design.

14. Kitchen design CAD programs may be intended for CAD professionals or for kitchen sales personnel. The programs in this case are for the most part intended for people like the staff at stores ranging from Home Depot to small kitchen retailer showrooms, people who are kitchen designers and builders, not CAD professionals.

COMPARING 20-20 DESIGN AND PROKITCHEN

15. To provide useful, concrete points of comparison for many of the issues discussed below, I refer to six different kitchen design programs, often demonstrating that of the eight total programs, only 20-20 Design and ProKitchen express an idea in a particular way. These eight programs are:

- 20-20 Design Version 6.1 and 8.1
- ProKitchen Version 2.0 and 3.0
- Planit Fusion, Version 14.2.8 and 14.2.10
- Chief Architect X2 Trial Version
- Configura CET Designer Version 2.2
- Kitchen Draw Version 5.0
- Pro 100 Version 4.62i
- Sweet Home 3D Version 2.0

16. Of these programs, seven appear to be aimed at the same market as 20-20 Design and ProKitchen, namely the staff at kitchen design and renovation organizations. Sweet Home 3D is aimed more at the homeowner, but is included as an illustration of comparable software for that marketplace and because it is mentioned in Real View documents.

17. As noted above, similarities between the user interfaces of 20-20 Design and ProKitchen are numerous and extensive, ranging from the selection and arrangement of the overall screen display, down to interface details in the expression of how to draw walls. For ease of reference, I have grouped the copied elements and labeled them in numerical order according to the List of Similarities Submitted by 20-20 on July 17, 2009. A copy of that list, slightly revised to show certain deletions, is attached as Exhibit B.

18. Unless otherwise indicated, comparisons below are between 20-20 Version 6.1 and ProKitchen Version 3, and for the sake of concreteness, I use a simple kitchen design that I created. As a notational shorthand, I use the format name1/name2 to indicate that 20-20 Design uses name1 while ProKitchen uses name2. Unless otherwise noted, side-by-side comparisons show 20-20 Design on the left and ProKitchen on the right.

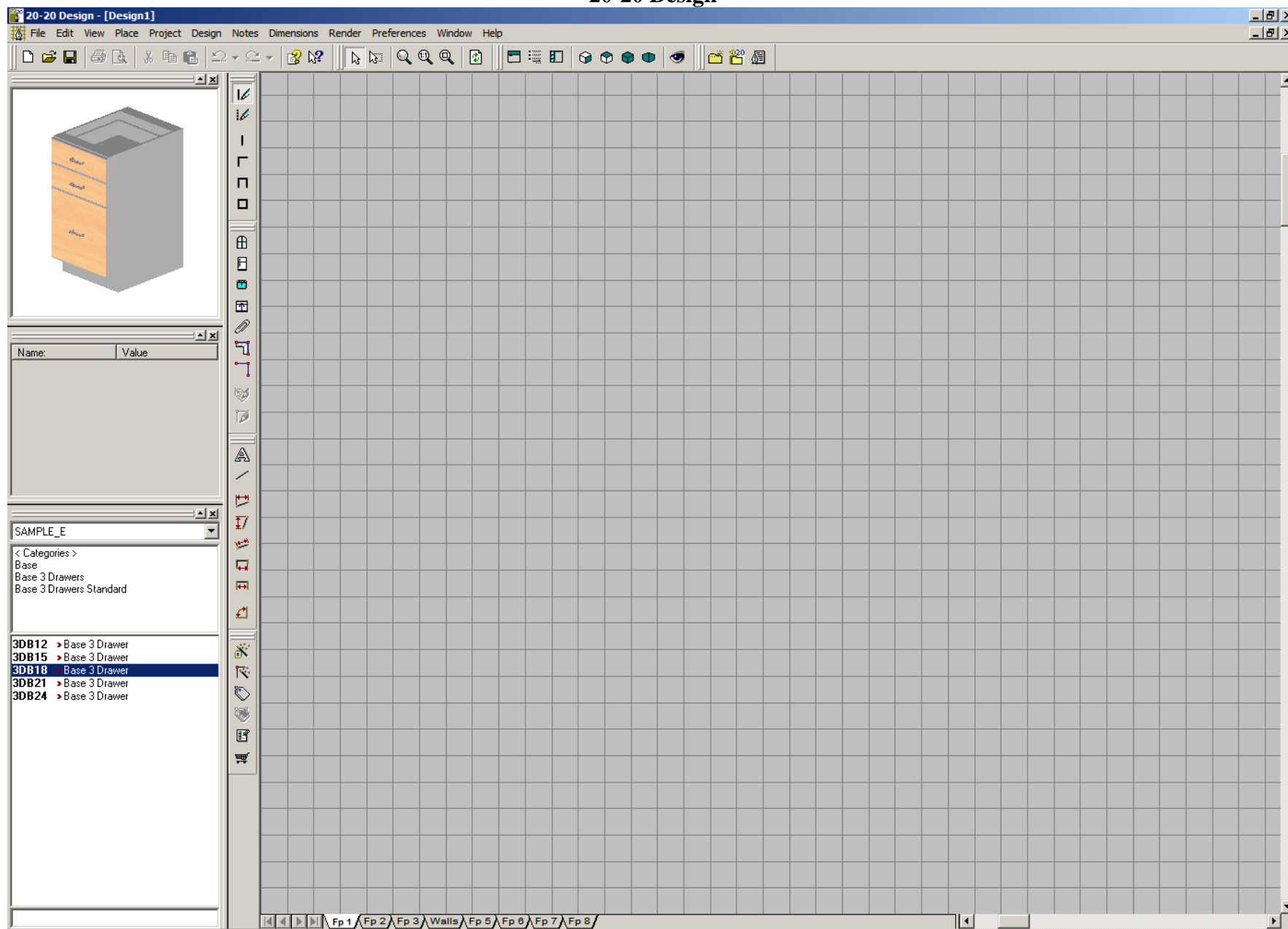
USER INTERFACE/OVERALL SCREEN LAYOUT

Copied Element #1: Appearance of the Overall Layout of the Screen, Overall Layout and Presentation of Information and Icons (User Interface)

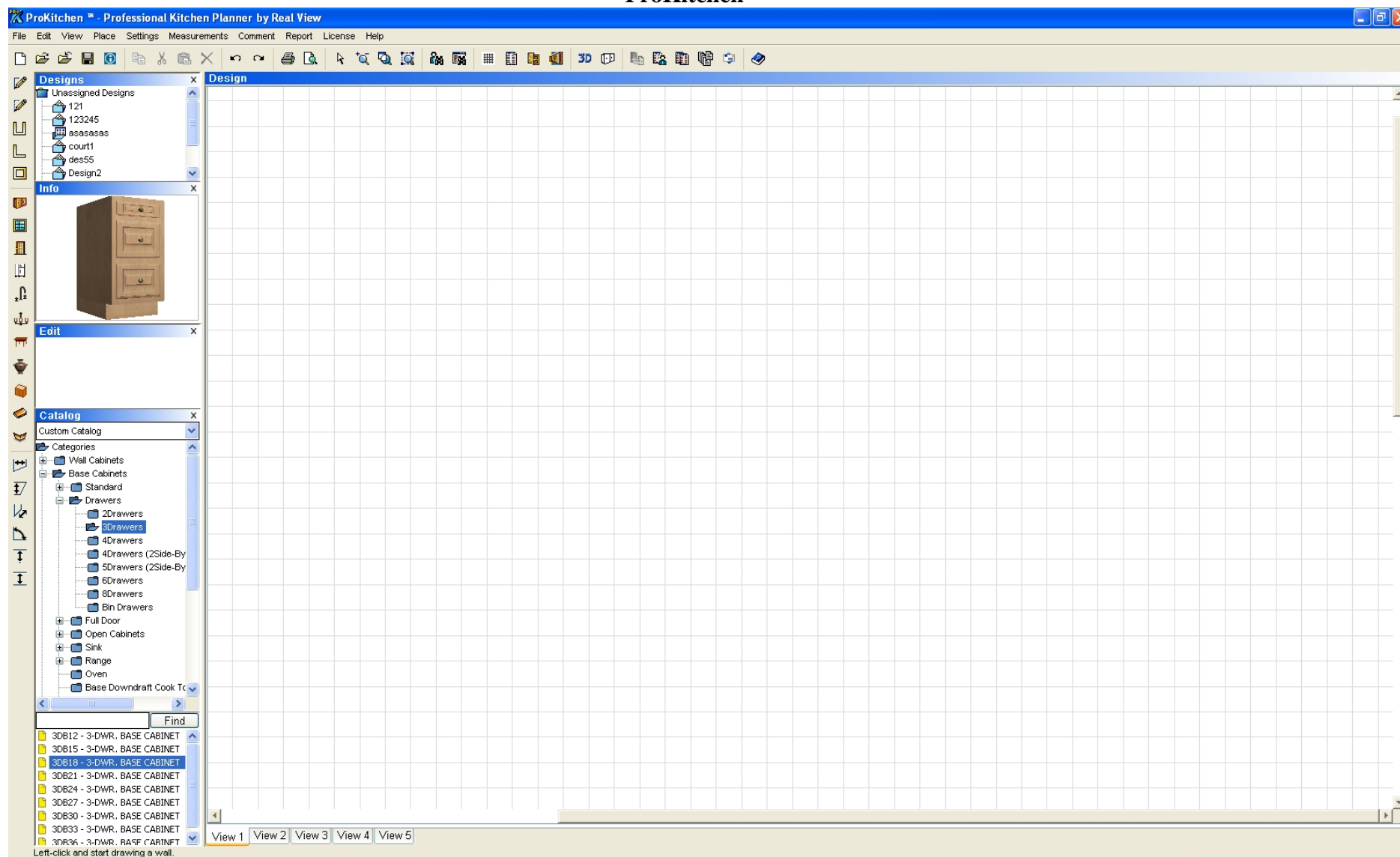
19. We begin with the overall screen layout:¹

¹ Throughout the document screen shots have been re-sized for legibility and to provide convenient side-by-side comparison when relevant.

20-20 Design



ProKitchen



20. The two programs share routine interface design elements, including the presence of a set of drop-down menus across the top, under which there are a set of icons that offer fast access to many of the same things found in the menus. The rest of the window is the work area, which is in turn subdivided into multiple smaller windows. As all of these are standard Windows interface conventions, it is unsurprising to find them in both programs. There are however, numerous similarities that are not explained on this basis, and I discuss them item by item further below.

21. The conclusion is inescapable that with respect to the overall user interface, the similarities are striking. In both cases the left side of the screen contains the same sequence of sub-windows: an information box, an edit box, a hierarchical catalog box, a drag and drop listing. There is also a search box in both, at the bottom in 20-20 Design and next to the bottom in ProKitchen. In both programs, there is a vertical set of icons next to these boxes, with only a minor variation in precise placement. In both programs, the main window is subdivided into a plan and elevation view, with the plan at the bottom and elevation at the top. In both programs, the plan and elevation windows have multiple tabs, enabling multiple views of the design.

22. A non-trivial part of getting trained on and oriented to a new piece of software involves coming to understand its overall layout and presentation of information and icons, i.e., how it presents its view of the task. The overall layout of these two programs is so similar that familiarity with one would instantly provide facility with the other. This is manifestly not the case with any of the other programs I examined.

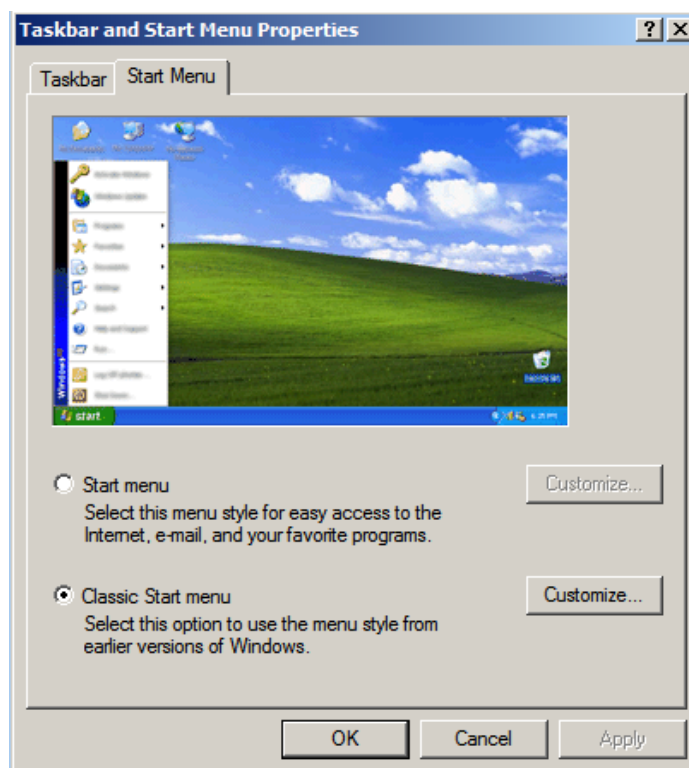
23. Real View's expert, Mr. Abbott, attempts to minimize the importance of the user interface:

The interface of a CAD program is not a significant part of a company's decision to purchase one program over another. Those decisions, in my experience, are based on four criteria: features, cost, support, and the availability of trained users. The interface plays almost no part in adopting a piece of software. People who "place increasing emphasis on how easy and intuitive" programs are to use are likely to be homeowners, not

professionals. Professionals will take the time to learn software if it is useful to them, regardless of the interface.

(Abbott Report, ¶4)

24. I disagree and moreover find the argument circular. First of all, the interface is a very important part of usability of software; at MIT, for example, there are two different, entire courses in the computer science curriculum devoted solely to user interface design and implementation, both of which stress design principles that make software easy to use. Second, the importance of familiarity in usability is so widely recognized that even the Windows XP operating system offers all users a choice of the interface for the Start menu, explicitly allowing them to “use the menu style from earlier versions of Windows,” even though it claims that its newer version provides “easy access:”



25. Next, even Boris Zeldin, one of the principals of Real View, disagrees with Mr. Abbott. He submitted an affidavit in which he is very clear on the issue: “commands must go where users expect to

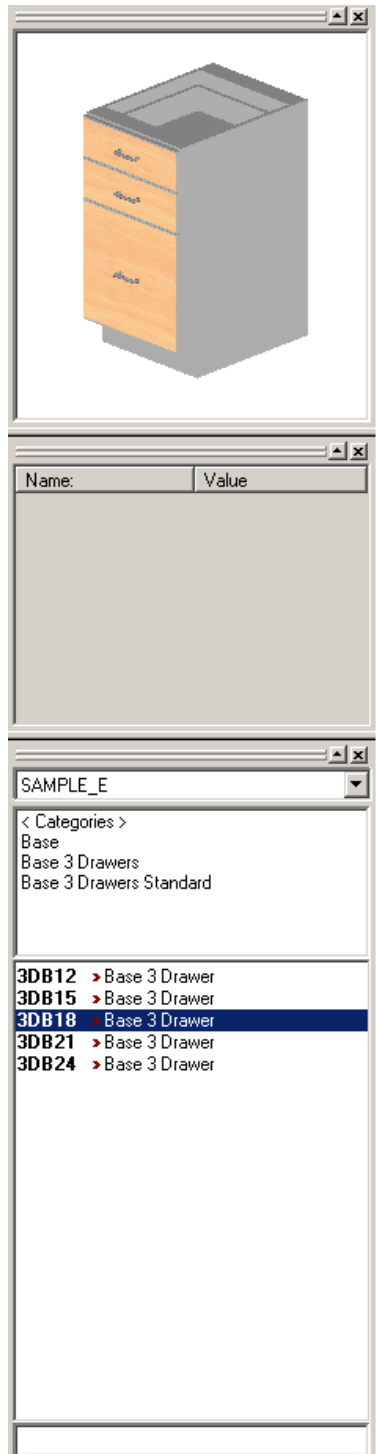
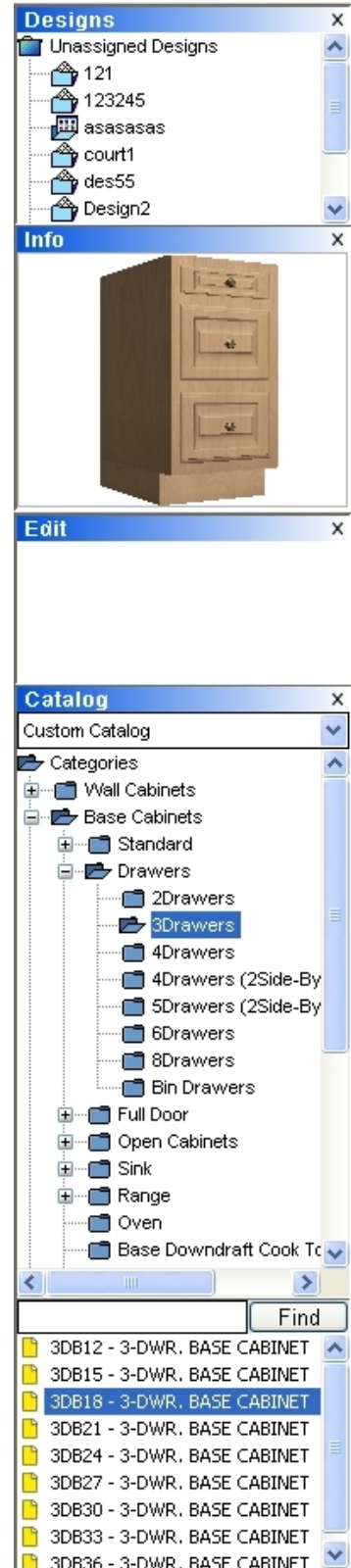
find them.” (Zeldin Affidavit, ¶37) . Mr. Zeldin understands the significance of the user interface; if commands are not where the user expects, the software is more difficult to use.

26. Mr. Abbott’s argument with respect to the user interface is also self-contradictory. He denies the significance of the user interface, while acknowledging the importance of “the availability of trained users.” One of the most valuable kinds of training one can have is in the interface for the specific software in question. If I know not just general principles of CAD software, but the particular expressive design choices that have been made for the interface of a specific program like 20-20 Design, I can be far more effective and efficient. Hence Mr. Abbott actually acknowledges the value of interfaces, but hides it behind the notion of trained users.

27. I understand that 20-20 Technologies has historically expended substantial effort in educating its user base about the interface, including requiring new purchasers of 20-20 Design to take a half-day training course given by authorized consultants. The company has thus invested in and produced a substantial population of “trained users” because of the value of that interface.

Copied Element #2: Same Sequence of Sub-Windows on the Left Side of the Screen

28. In both programs, the left side of the screen contains the same sequence of sub-windows: an information box, an edit box, a hierarchical catalog box, a drag and drop listing, and a search box (ProKitchen has a “Design” box not found in 20-20 Design). In other words, 20-20 Design contains a particular set of windows, in a particular selection and arrangement that is strikingly similar in selection, arrangement and appearance to the group of sub-windows on the left side of the screen in ProKitchen:

20-20 Design**ProKitchen**

29. In both cases the group starts with a panel that previews the item to be placed in the design, followed by an edit window, where size and placement details can be viewed, or entered manually (e.g., you can either drag an item to place it or change its size, or simply type in the relevant position or measurements).

30. Next there is a hierarchical catalog window, allowing the user to browse through available design items, followed by a select and drag window – once an item is highlighted from the list at the bottom, it can be placed in the design using the mouse.

31. The Find window works similarly, allowing the user to type part or all of a component code (e.g., FDB12) at which point the system will list only those components that start with this sequence of letters.

32. In both systems the expanded description of the items (e.g., the “Base FHD” text) can be eliminated with a right click of the mouse, simplifying the appearance of the listing.

33. In addressing this similarity, I understand that Real View has argued that many CAD programs use sub-windows or panels from which the user can select objects necessary to the creation of a design, and the “look” of the two programs is industry standard for CAD software. Real View’s argument is a broad and unsupported claim, and is only true if by “look” we mean something like “any use of sub-windows for any purpose in a design program.” Real View attempts to ignore the specific similarity, instead focusing on a non-issue (e.g., “CAD programs use panels”).

34. Even so, considering it for the sake of argument, a brief review of the six competing kitchen design programs makes several things clear. First, while there are some individual similarities – KitchenDraw’s Articles panel presents an item hierarchy and preview picture, as does Chief Architect’s Library browser window – even here there are differences in expression (panels on the other side of the screen, preview images at the bottom, not the top), making it clear that there were alternatives

expressions available to ProKitchen even at the level of these details. Second, none of the other four programs have a selection and arrangement of panels that is at all similar to 20-20 Design and ProKitchen. This too indicates that, had Real View wanted to, it could have expressed the desired information in any of the very different ways found in the other programs. Additional screenshots of 20-20 Design and ProKitchen, as well as the six competing kitchen design programs are found on pages 74-81. The similarities between the overall layout of 20-20 Design and ProKitchen is apparent, as well as the relative dissimilarities with the six other programs.

35. Mr. Abbott notes that “Placing panels or windows on the left side of the screen is common, but arbitrary. They could have been placed on the right without changing the function of the software.” Yes, just exactly so. The choice is one of many: the panels could have been designed differently, placed differently, the function of the panels could have been expressed in mechanisms other than panels, etc. As Mr. Abbott agrees, even this small choice was arbitrary, i.e., not required by the task, and thus is one small element of expression in 20-20 Design.

Copied Element #3: Vertical Set of Icons Next to the Boxes

36. In both programs, there is a vertical set of icons next to these boxes, with similarities in the selection, arrangement and appearance of the icons. These two vertical toolbars provide a useful example, as there is no Windows, or CAD tool, convention to fall back on here, and because the two are so plainly similar in the selection, arrangement, and even the appearance of the icons:



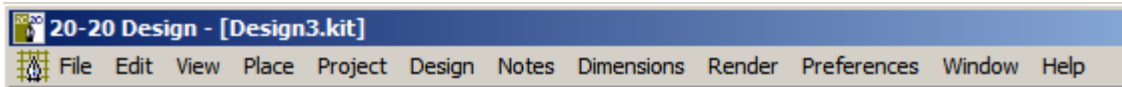
37. There are 22 icons in the ProKitchen toolbar; of these 17 are found in 20-20, with almost identical icons and almost identical order: wall, construction line, U-shaped room, L-shaped room,

rectangular room, cabinets, windows, doors, appliances, countertop, trim, horizontal distance, vertical distance, diagonal distance, angular distance, point to line distance, line to line distance.

Copied Element #4: Main Set of Actions

38. While menus across the top are routine in Windows programs, the content of those menus of course differs. Yet these two programs have clear evidence of similarities in the selection and arrangement of the menus and their items.

39. Consider the main menus:



40. In both we find Place, Notes/Comment, Dimensions/Measurements.

41. Going further and examining the submenus, and filtering out choices that are either routine in Windows programs or commonly found in CAD/drawing programs, we find additional similarities of selection and arrangement:

- File menu: Save as Image (discussed further below as Copied Element #15)
- Edit menu: Attributes/Attribute (discussed further below as Copied Element #16)
- View menu: Add Elevation Area/Elevation, Show Bill of Materials/Bill of Material, Drag & Drop List/ Catalog, Information Box/Info, Edit Box/Edit (discussed further below as Copied Element #18)
- Place menu: Walls/Wall; Openings & Obstacles/Window, Door; Appliances/Appliances; Cabinets/Cabinet; Countertops/Countertop; Trims/Trim (discussed further below as Copied Element #19).

- Dimensions/Measurements menu: identical set of six dimensions, in the same order, with almost identical icons (discussed further below as Copied Element #20).
- Notes/Comments: same two out of three choices, in same order (discussed further below as Copied Element #21).

Copied Element #5: Horizontal Toolbar

42. Next we turn to the horizontal toolbar found just under the main menus. As noted, having such a toolbar is a routine Windows convention, and some of the items on the toolbar would be found in most Windows programs. The selection and arrangement of the specific items on the toolbar, however, varies from program to program. Yet there are striking similarities in the two toolbars (20-20 at top):



43. There is, for instance, the sequence of view modifiers of Select, Zoom in/out, Zoom to region, and Zoom to fit, as well as the presence of an Elevation view icon, a Bill of Materials icon, an Isometric View icon and the Perspective/3D icon.

ELEVATION VIEW OF THE DESIGN

Copied Element #7: Main Window Subdivided into Two Sub-Windows With the Plan View at the Top and Elevation View at the Bottom.

44. In both programs, the main window is subdivided into a plan and elevation view, with the plan view at the bottom and the elevation view at the top.

45. For this similarity, I understand that Real View has argued that this feature is sometimes called “multiview” and is common to many CAD programs. Indeed, *some* collection of multiple views is a common feature, but the similarity identified was not the generic notion of dividing the screen vertically, nor of simply “having multiple views.” It concerned the one choice that both programs share, namely having the elevation view at the top and the plan view at the bottom.

46. Real View has provided five screen shots of other programs that offer multiview (Zeldin Affidavit, Exhibit D pp. 23-32). Interestingly, two of those don't split the screen between elevations and plans at all (they show plan and 3-D views), and none show a split screen with elevation view above plan view. Those that do contain elevation and plan views show the plan view on top. Even Mr. Abbott inadvertently agrees – his (literally) textbook example shows "...the way a draftsman would have laid out a sheet when drawing by hand" (Abbott Report at 11), and has the plan view at the top and elevation view at the bottom.

47. In other words, among all of the examples of cited in all the Real View documents, *only* the screenshots of 20-20 Design and ProKitchen show a screen split with elevation view at the top and plan view at the bottom, the similarity noted in my report. Hence Real View's own examples make the point convincingly that the two programs share an uncommon expression of interface design.

48. Real View also states in its Memorandum: "Moreover, there is only one way to present this feature (a horizontal screen split). (Zeldin Aff. Ex. D, p. 25)." This is contradicted by Planit Fusion, a design program not discussed by the Real View documents, that provides a feature called precisely "Multi View," which splits the screen both horizontally and vertically, into four quadrants. Apparently there is indeed more than one way to present this information.

MULTIPLE VIEWS OF THE DESIGN

Copied Element #9: Multiple Views with Customizable Limited Visibility of Design Components Via the Use of Tabs

49. Both programs allow multiple views or "layering" of the same design with limited visibility of items via the use of tabs in both the plan and elevation views. In both 20-20 Design and ProKitchen, the user can decide which elements ought to appear on each tab. Using almost identical expression, both programs allow the user to decide, for instance, to show only the walls and cabinets in one tab, only the

walls and appliances in other tab, etc. Yet once again, none of the other competing six programs offers anything like this selective display capability oriented around kitchen design elements.

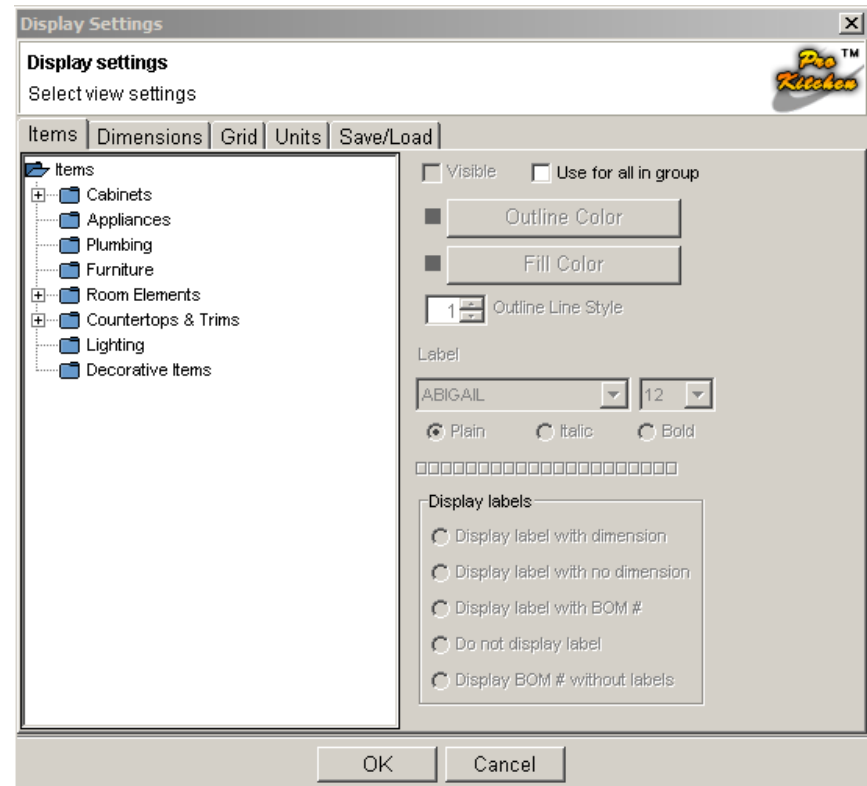
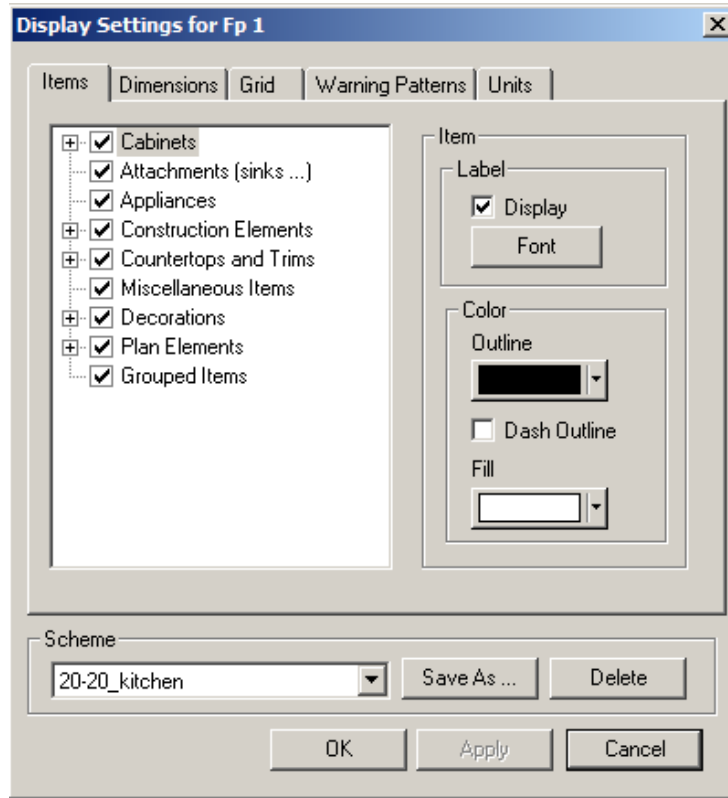
50. Real View claims that tabbed interfaces are routine (Zeldin Aff. ¶27), but once again this is a generalization of the actual similarity found in 20-20 Design and ProKitchen. The fact remains that none of the other competing kitchen design programs allow for multiple views or “layering” of the same design with limited visibility of items via the use of tabs.

VIEW CONTROLS

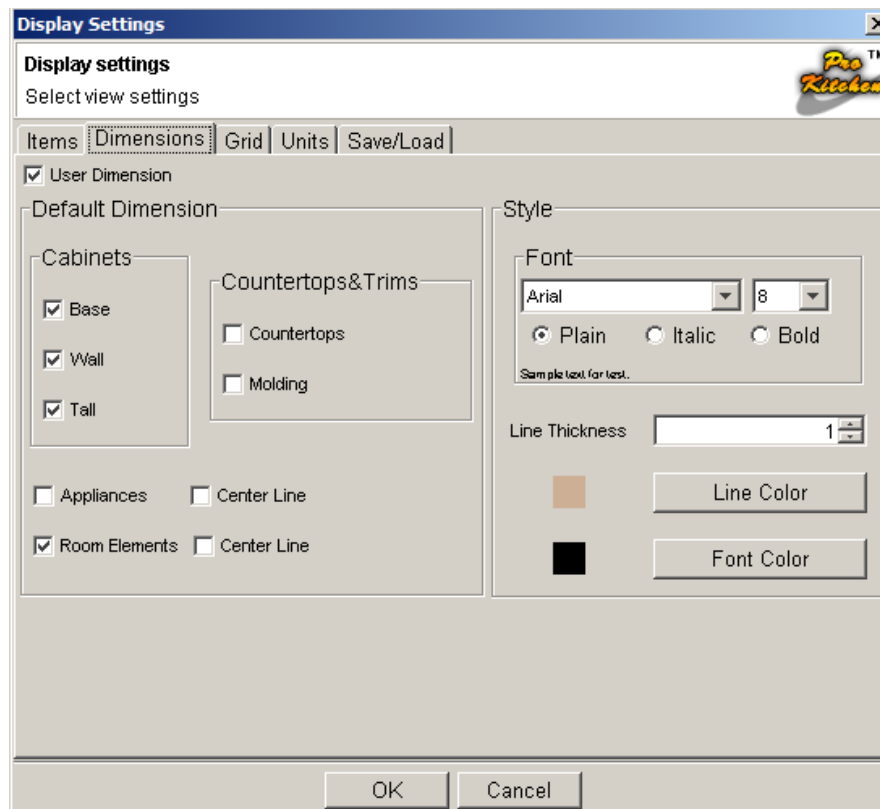
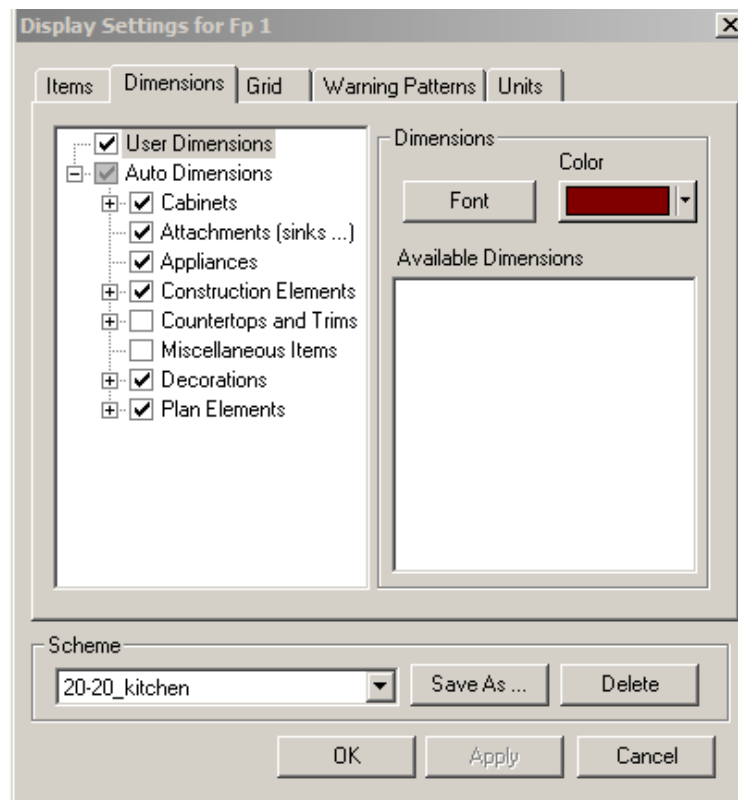
Copied Element #11: Expression Within the Items Tab of Display Settings Box

51. The two systems provide a strikingly similar set of information boxes and selection of choices in response to the Display Settings menu item.

52. Note the selection and arrangement of tabs (Items, Dimensions, Grid, Units) and the similarity of layout (Items tab shown):

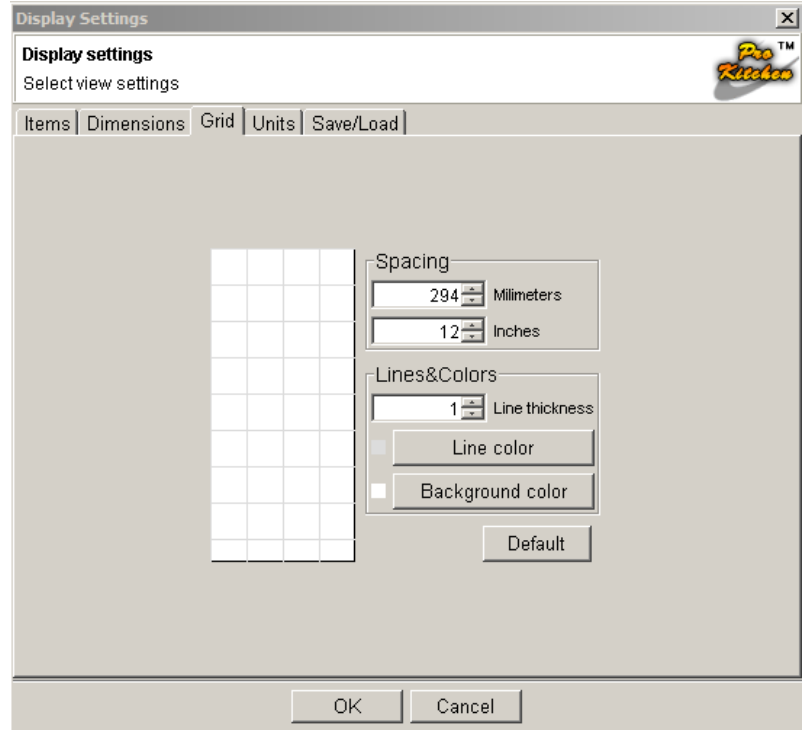
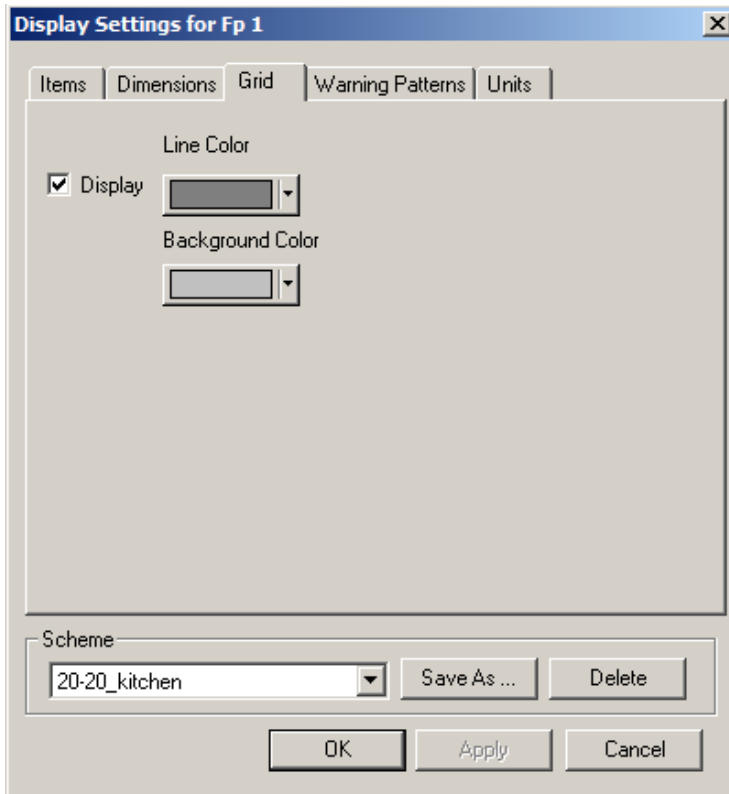


Copied Element #12: Expression Within the Dimensions Tab of Display Settings Box
 53. The similarities continue on the Dimensions tab:



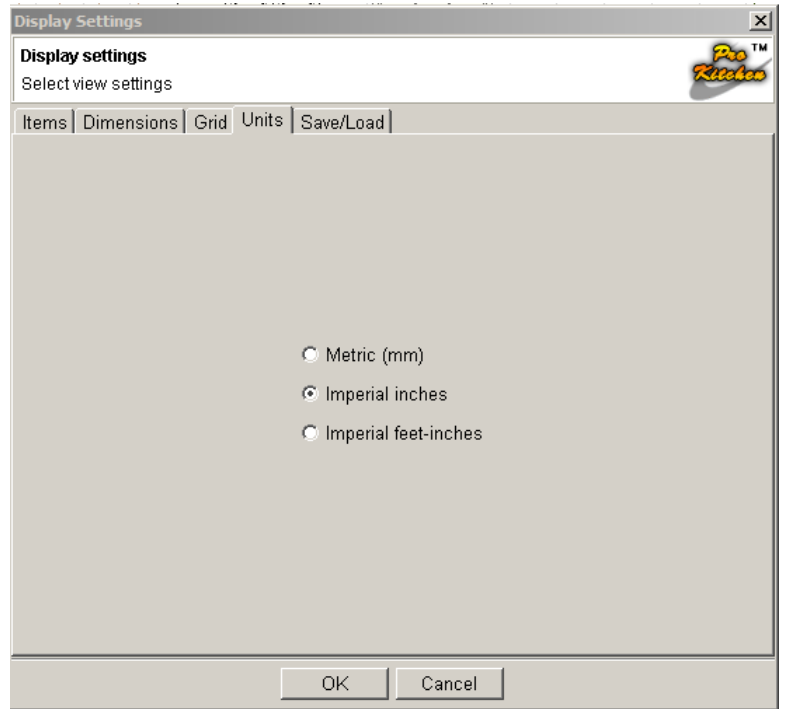
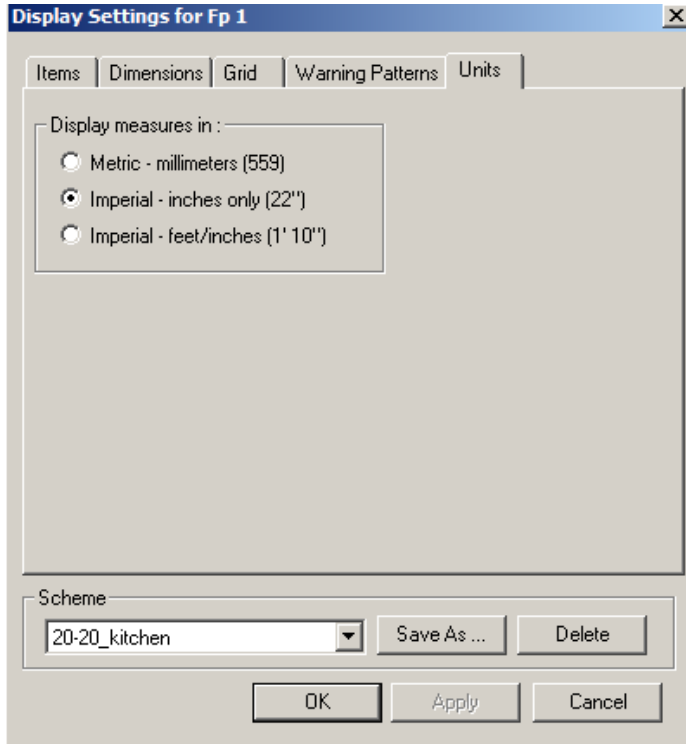
Copied Element #13: Expression Within the Grid Tab of Display Settings Box

54. The Grid tab provides additional similarities, allowing the change of line color and background color:



Copied Element #14: Expression Within the Units Tab of Display Settings Box

55. The Units tab offers additional similarities, using the same ordering of choices in almost identical language:

**CREATING A PICTURE OF THE CURRENT DESIGN****Copied Element #15: File Action – “Save As Image”**

56. Both programs allow the user to save the current design as an image via the use of the “Save as Image” option within the File menu.

57. In response to this claimed element, Real View puts forth its “Google argument” and Mr. Abbott’s comments about file formats and about the utility of being able to save a design as an image. I consider each of these in turn.

58. Real View argues that a Google search finds the phrase “Save as Image” in numerous documents. While the *idea* of saving the design as an image is found in other programs, if we look at the six other kitchen design programs, we find that one is missing the command entirely, while *every one of the other five expresses the idea differently* (and uniformly) as “Export”. In other words, of a

total of eight kitchen design programs, only 20-20 Design and ProKitchen express the idea as “Save as Image”.

59. The Google argument is unconvincing for a variety of reasons, not the least of which is that Google will return any document containing the three words “save as image,” in that order. It of course has no understanding of the text, so it will return documents whose actual text is “That’s nothing I care to save, as image is not important to me,” or documents that say “The program has no save as image command” (and there is in fact at least one of those in the set of documents Google returns). Second, the common occurrence of the phrase in text has no impact on whether it is commonly used in design programs, or more particularly in the kitchen design programs at issue here.

60. Mr. Abbott’s discussion of the phrase is to a large degree irrelevant, as he explains about file formats at some length, emphasizing a difference that has nothing to do with the issue of copying expression. He also claims (Abbot Report, ¶15) there is “a compelling reason for the ‘File’ menu to contain a ‘Save as Image’ option,” but then does not support this argument at all. He argues that the ability to save the image as a file matters, but never addresses the issue of expression, i.e., the selection and arrangement of the specific menu items at hand.

61. None of the Real View documents address the obvious question – how many other comparable programs offer a “Save as Image” menu command? In particular, if we examine the six comparable programs listed at the beginning of this document, we find that *none of them do*. Sweet Home does not have the capability at all, and the other five uniformly use a different phrase and a different menu organization. Every one of those five uses the term “Export” and most employ a multi-level menu structure different from that in 20-20 Design and ProKitchen.

62. Simply put, five of the six programs offer the same functionality, but every one of those expresses it differently, both in terms of the words used and the menu organization. Clearly ProKitchen had alternative choices available for this menu organization and expression: they could

have done what was common in the field, or they could have produced a verbatim copy of 20-20 Design's choices. Clearly they did the latter.

ADJUSTING THE DIMENSIONS AND OTHER PROPERTIES OF OBJECTS

Copied Element #16: Similarity of Expression in the Edit, Attributes Names and Interaction Window

63. Examining the submenus, and filtering out menu choices that are either routine in Windows programs or commonly found in CAD/drawing programs, an additional similarity is found in the Attributes/Attribute option within the Edit options. Both programs allow users to adjust the dimensions and other properties of objects via the Attributes/Attribute option within the Edit menu.

DETERMINING WHAT THINGS SHOULD BE SHOWN ON THE SCREEN

Copied Element #18: Similarity of Expression in the View Options

64. Examining the submenus, and filtering out menu choices that are either routine in Windows programs or commonly found in CAD/drawing programs, we find additional similarities of selection and arrangement in the View options: Add Elevation Area/Elevation, Show Bill of Materials/Bill of Material, Drag & Drop List/ Catalog, Information Box/Info, Edit Box/Edit.

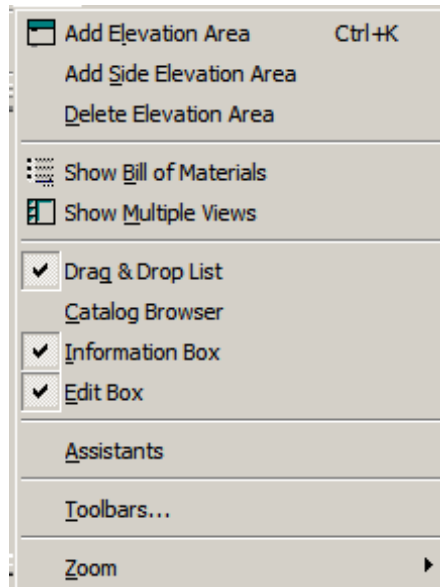
65. Mr. Abbott goes to some effort (Abbott Report, 16-17) to point out differences between the View menus of 20-20 Design and ProKitchen, claiming that "The view menus as displayed are different in look" and that features common between them "are standard in most CAD software because all CAD programs require them."

66. Once again Mr. Abbott fails to make the obvious comparison. For reference I have reproduced below the 20-20 Design and ProKitchen View menus. In addition I have also reproduced the View menus for the other six comparable programs listed at the beginning of this document. Even a cursory examination of the View menus of the other 6 programs demonstrates the opportunity for substantially different selections and organizations of the View menu items.

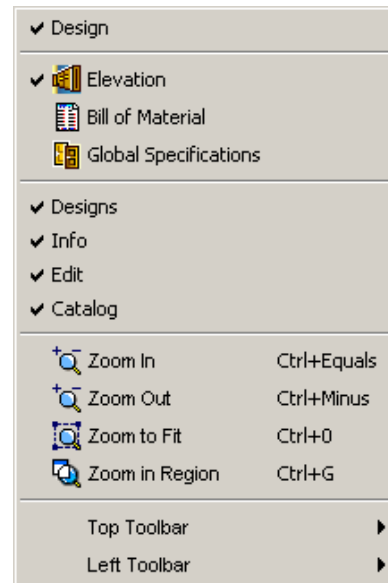
67. Faced with the task of asking which two menus are most alike, there is no contest – 20-20

Design and ProKitchen are clearly far more similar to each other than any of the others, down even to the expressive element of the color schemes and type fonts used (note how different all the other programs are in this respect, among others).

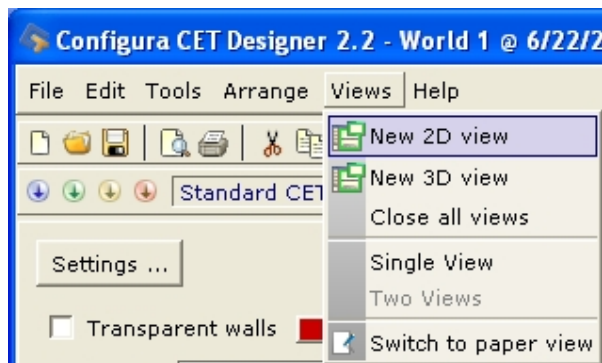
20-20 Design



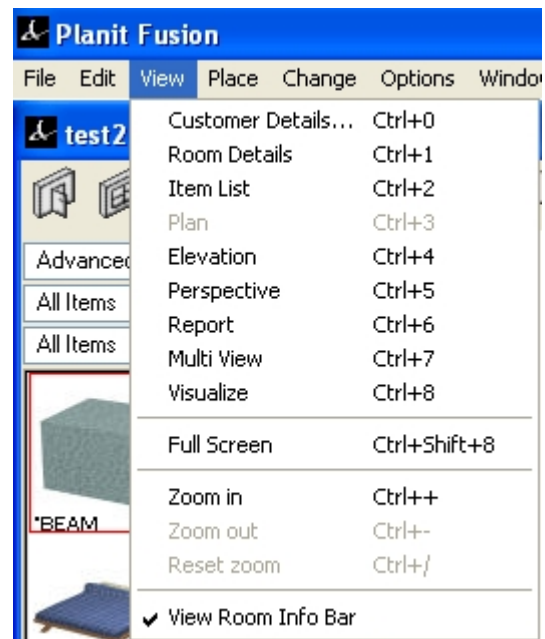
ProKitchen

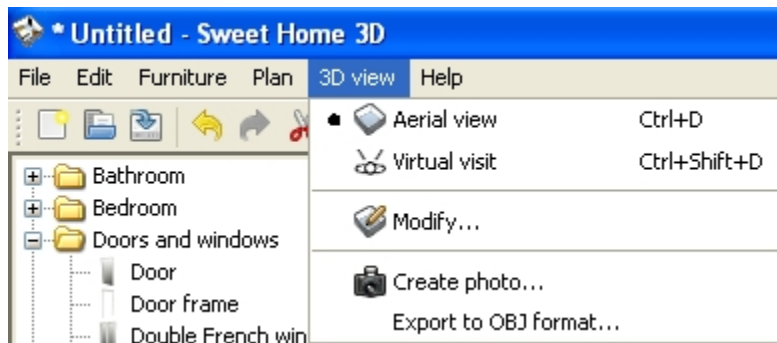
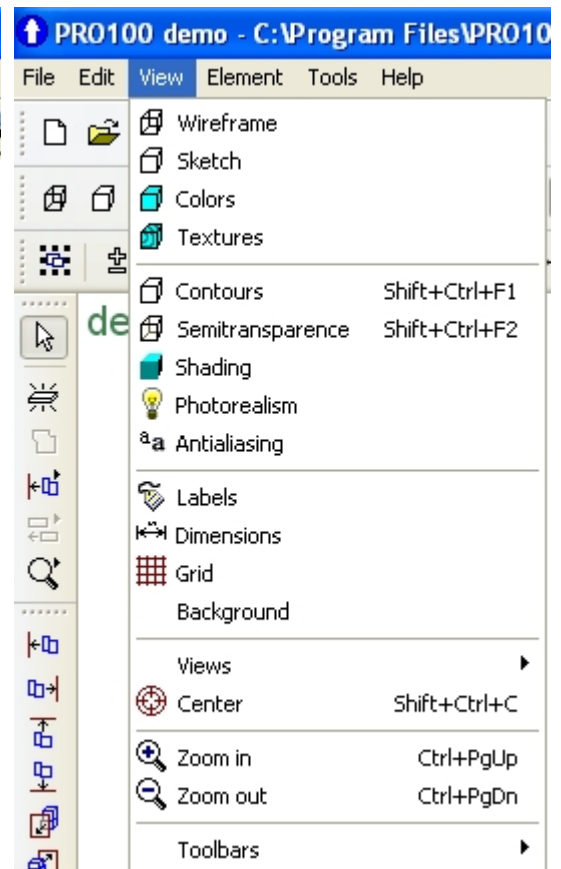


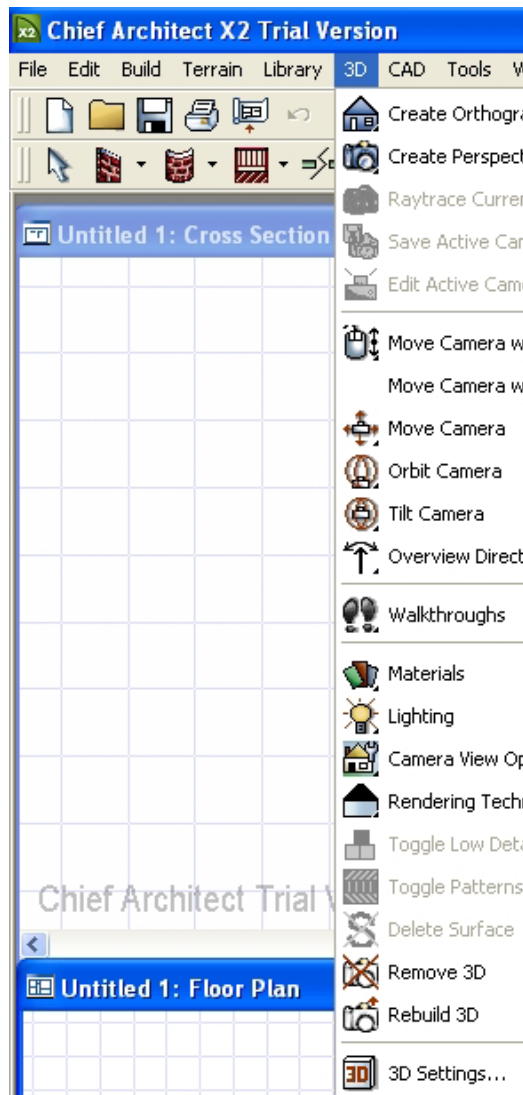
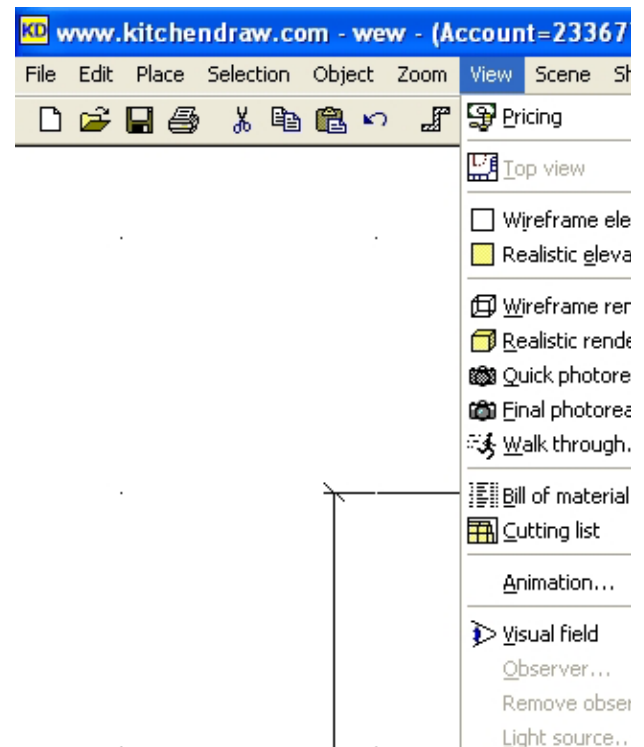
Configura CET



Planit Fusion



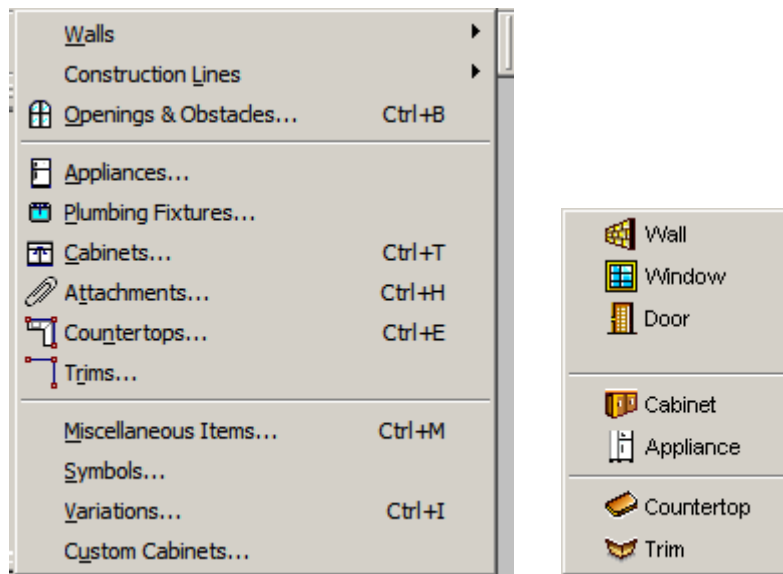
Sweet Home 3D (closest match)**Pro100**

Chief Architect (the closest match)**KitchenDraw**

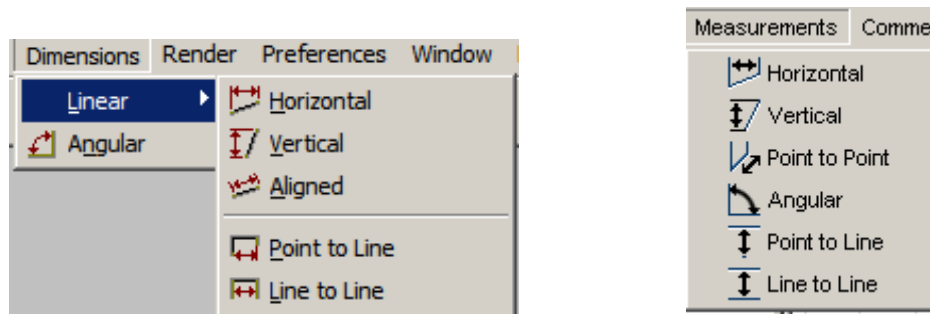
68. The examples also demonstrate that the claim “all CAD programs require them” is clearly false, at least if the claim is that “all CAD programs require them in the View menu.” If the claim is simply that all CAD programs require the feature *somewhere* in their design, then the argument being made is about functionality and is irrelevant to the question of similarity in expression, selection and arrangement of the menu items, i.e., irrelevant to the issue at hand.

ADDING KITCHEN OBJECTS TO THE DESIGN**Copied Element #19: Similarity of Expression in the Place Options**

69. Examining the submenus in 20-20 Design and ProKitchen, and filtering out menu choices that are either routine in Windows programs or commonly found in CAD/drawing programs, we find additional similarities of selection and arrangement in the Place options: Walls/Wall; Openings & Obstacles/Window, Door; Appliances/Appliances; Cabinets/Cabinet; Countertops/Countertop; Trims/Trim.

**DIMENSION NOTATIONS****Copied Element #20: Similarity of Expression in the Dimensions Options**

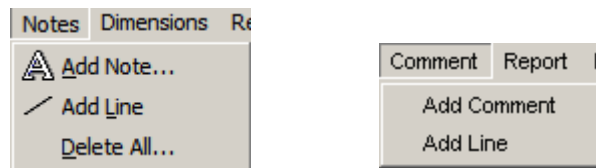
70. Examining the submenus, and filtering out menu choices that are either routine in Windows programs or commonly found in CAD/drawing programs, we find additional similarities of selection and arrangement in the Dimensions/Measurements options: identical set of six dimensions, in the same order, with almost identical icons.



TEXTUAL NOTES

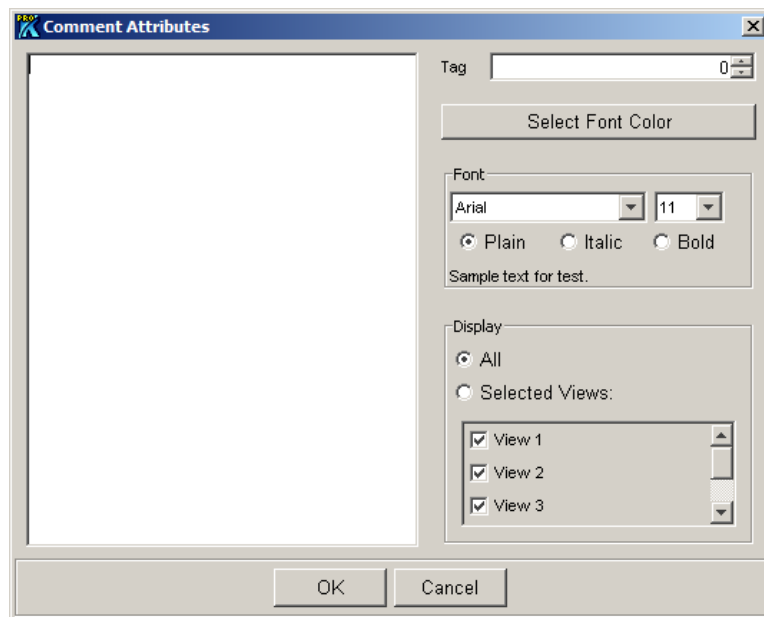
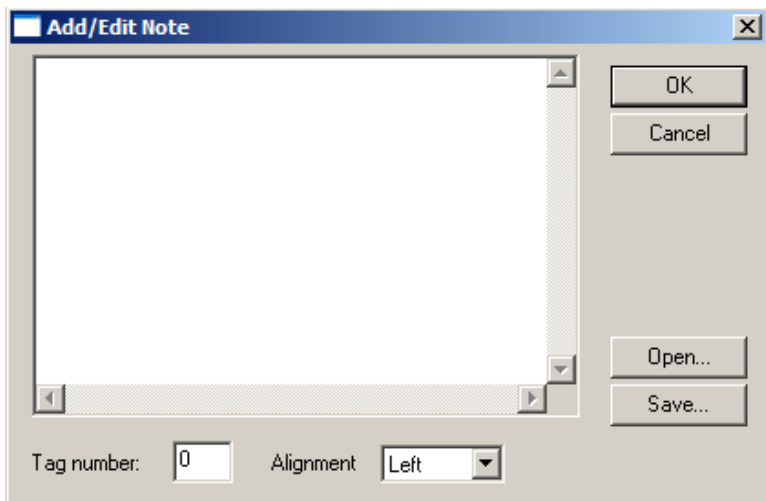
Copied Element #21: Similarity of Expression in the Notes/Comments Options

71. Examining the submenus of 20-20 Design and ProKitchen, and filtering out menu choices that are either routine in Windows programs or commonly found in CAD/drawing programs, we find additional similarities of selection and arrangement in the Notes/Comments options: same two out of three choices, in same order:



Copied Element #22: Adding Notes and Tagging with Numbers

72. In both programs the choice has been made not only to present a user interface element that permits adding notes to the design, but one that has the notion of a “tag” number that goes with the note:



ADDING WALLS

Copied Element #23: Same Three Methods to Add a Wall

73. One of the most basic things needed for a kitchen design is the placement of walls.

However, both programs express the feature of adding a wall by offering the same three methods: the Place command, toolbar, and new design default mode. Both programs provide virtually identical interfaces for the drawing and specification of walls, at both the high level and in the small details.

Copied Element #24: Similar Icons in the Same Order Within the Horizontal Toolbar for Drawing a Wall

74. At a high level, both programs provide similar icons in the same order in the horizontal toolbar for drawing walls and specifying whether the wall is to be a standard (i.e., physical) wall, or a construction line:



Copied Element #25: Idiosyncratic Sequence of Mouse Clicks for Wall Drawing

75. The similarity in the interface of the two programs extends down to the details of how walls are drawn with the mouse. In both, one wall segment can be ended and another started by clicking the left mouse. Clicking the right mouse allows the user to change the orientation of the wall without changing its length; clicking right again allows changing only the length, clicking right again allows changing the orientation again (in ProKitchen both orientation and length can be changed in response to a right click), etc. Both programs have made the somewhat obscure choice to have their interface offer this length/orientation alternation to be based on repeated right mouse clicking, something I could find in none of the other programs.

76. We can also look at the other six comparable kitchen design programs to see how they express the idea of drawing walls:

- a. Planit Fusion Live: The wall layout wizard starts before the design begins, so the room dimension and basic wall layout is set without use of the mouse. Additional walls can be drawn by selecting the wall type (e.g., height) from the wall palette, select the appropriate Item tool (e.g., polyadd item tool), left click starts wall, drag mouse (with button up or down, doesn't matter), wall length and direction follow the mouse, left or right click starts new wall segment.
- b. Sweet Home: select Add Wall (in the Plan menu, or via icon), left click starts wall, length and direction follow the mouse (whether mouse is held down or not), left click starts new segment, double left click ends wall. Right click produces response unrelated to walls.
- c. Pro100: The room dimension and basic wall layout is set at the very beginning of the design so the walls are for the most part taken care of without the mouse. Additional walls can be added by selecting walls in the catalog, and dragging a wall into the

design. Walls come in single segments of default length, width and height; these can be changed with the mouse, but each wall segment must be added independently.

- d. KitchenDraw: The room dimension and basic wall layout is set at the very beginning of the design so the walls are for the most part taken care of without the mouse. To add additional walls later, select the Walls icon, left click starts wall, length and direction follow mouse, left click ends segment, starts another, double-left click ends wall, right click erases previous segment.
- e. Chief Architect: Click on Add Wall icon, left click and hold to start drawing, mouse-up ends the segment, wall length and angle follows the mouse. Right click produces response unrelated to wall drawing.
- f. Configura CET: select wall from palette, left click and drag to draw wall, length and direction follow mouse, mouse-up ends wall segment; right click has no effect.

77. Finally, Mr. Abbot's report (and other Real View documents) argue against the claim in my report that the expression of the wall drawing process is very similar. They do this largely by ignoring the claim I actually made, generalizing it so they can argue against the straw man. Mr. Abbott, for example, claims that "The method of placing a wall in 20-20 Design and ProKitchen is similar to that of many CAD programs that allow entities to be sized by either moving the mouse or typing in a value." (Abbott Report, ¶26).

78. He begins by describing how other programs express wall drawing, indicating that:

AutoCAD permits this by *tabbing* between the length and angle option as a line is placed.

SolidWorks provides a *floating dialog box* to change a dimension.

Revit Architecture permits the length to be *entered in a floating window*.

(Abbott Report, ¶26) (emphasis added)

79. As the emphasized words above show, his examples immediately prove how much other programs *differ* in their expression of wall drawing. None of them express it using the idiosyncratic left mouse/right mouse combination. Surely ProKitchen had available these options as other choices, yet they chose a combination that is almost exactly what 20-20 Design did.

Copied Element #26: Undocumented “Click Behind Most Recent Wall” to Terminate Wall Drawing

80. Consider also the means chosen in 20-20 Design to express the idea of terminating the drawing of a continuous sequence of wall segments. As both the right click and left click of the mouse already express something, the program offers the quite standard option of hitting the escape key (ESC) to terminate wall drawing (as does ProKitchen). Interestingly, 20-20 Design offers a second means of expressing this: the user can left click behind the most recently drawn wall segment. This is interesting for our current purposes because (a) it apparently does not appear anywhere in the 20-20 Design documentation, (b) it apparently does not appear anywhere in the ProKitchen documentation, and yet (c) ProKitchen offers exactly the same, rather obscure, means of expressing the termination of a wall sequence (which does not work in any of the other programs mentioned). This suggests the attention to detail exercised by ProKitchen programmers in copying elements of 20-20 Design.

Copied Element #27: Creating Walls Using the Edit box

81. In both programs, walls can also be drawn by selecting the starting position of the wall and then typing in the Edit box (below) to indicate wall length and orientation:

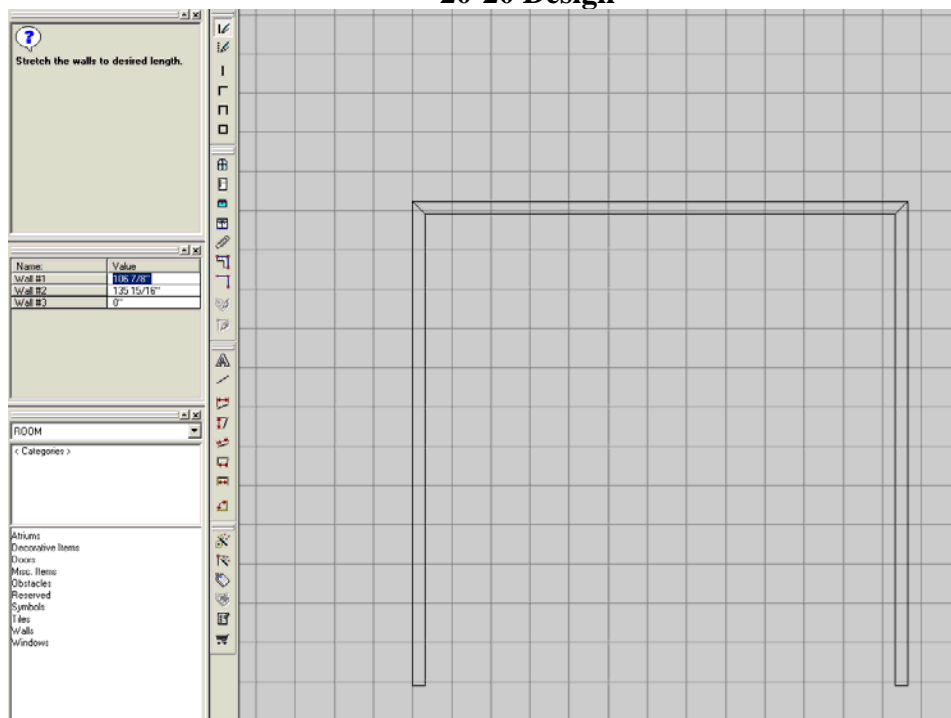
Name:	Value
Length	48"
Angle	180.00 °

Edit	
Length :	48
Angle :	0

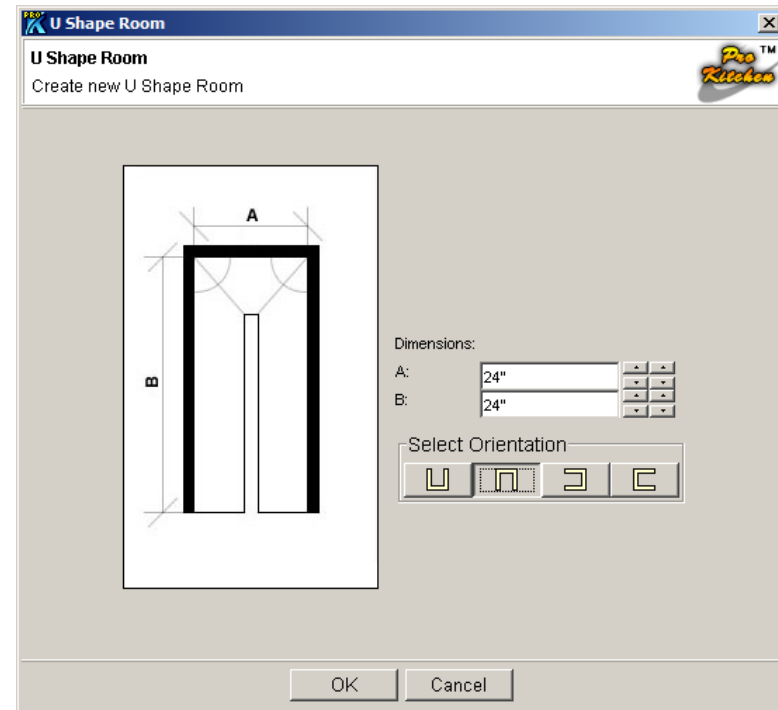
Copied Element #28: Default Room Configurations

82. Finally, in both programs walls can be drawn using the default room configurations located in at the top of the vertical toolbars. The default room configurations offered are L, U and closed, in similar icons in similar order.

20-20 Design



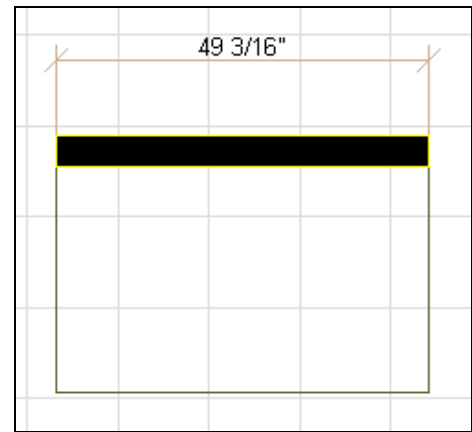
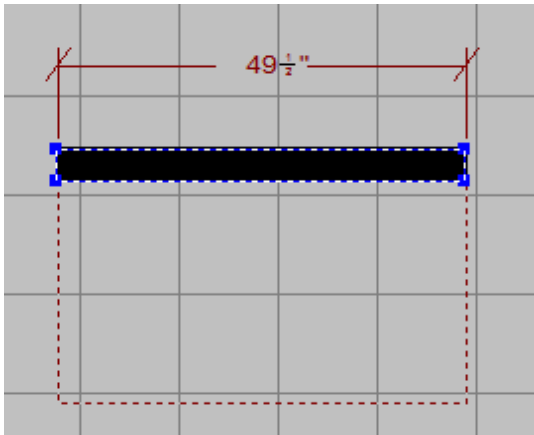
ProKitchen



DEFAULT LOCATION FOR CABINET

Copied Element #29: Expression of Placement Zones

83. In both programs, once a wall has been drawn, it is dimensioned and a “Placement Zone” is automatically connected to it:

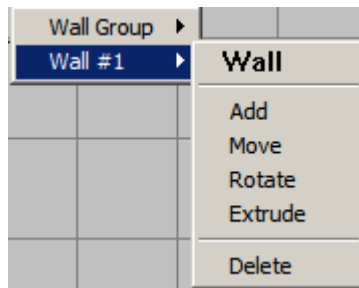
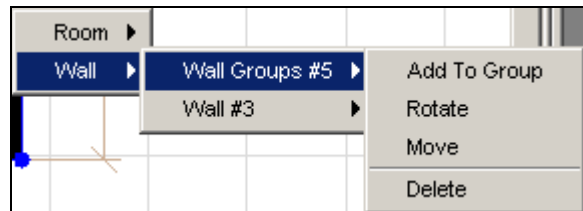
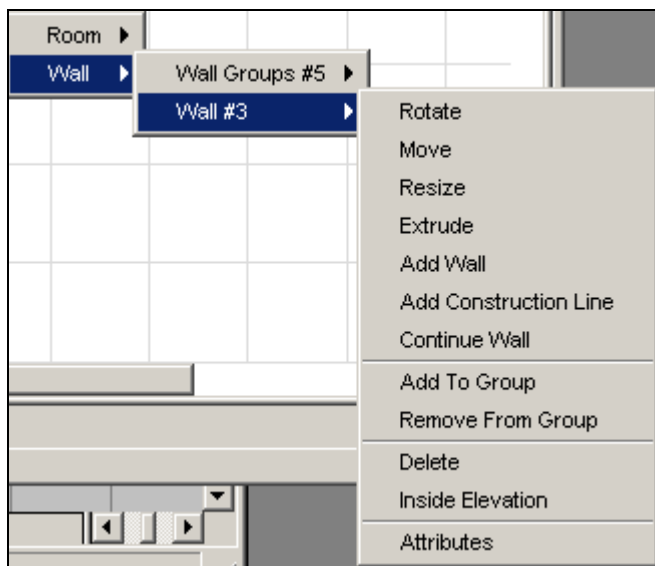


84. A placement zone is intended to facilitate the placement of objects such as cabinets and appliances, as these are typically placed up against walls. The term does not appear to be a standard term of art, yet appears in both programs and is similar in conception, execution, and appearance. None of the other comparable kitchen design programs contain this feature or express it in this similar way.

MODIFYING WALLS IN THE DESIGN

Copied Element #30: Similarly Organized Options to Edit Walls

85. Once walls have been drawn, they can be edited in both programs using almost identically organized menus. While right clicking on an object is a fairly standard Windows convention for pulling up what's termed a context menu, the contents of that menu are not specified by any Windows convention. Yet the selection and arrangement of the menus that appear are substantially similar.

20-20 Design**Pro-Kitchen**

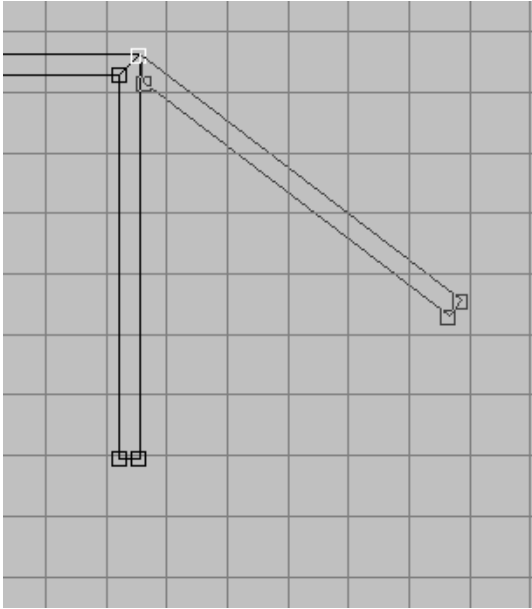
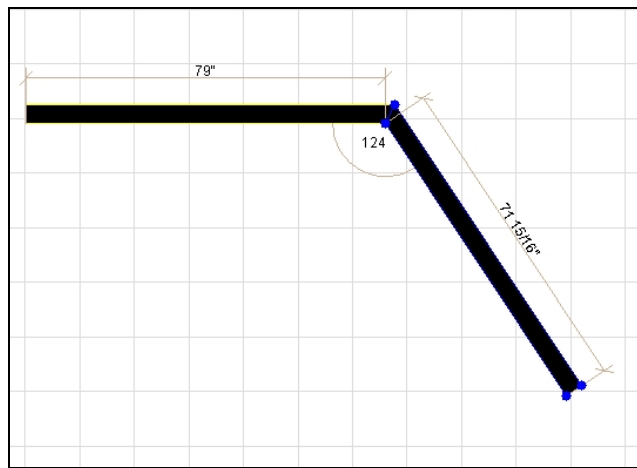
86. Note the similar presentation of “wall groups” and the common choices presented of Add, Move, Rotate and Extrude, as well as the choices for a wall group to Move and Rotate.

Copied Element #31: Moving Walls

87. Both programs share similarity of expression in moving walls, as shown above.

Copied Element #32: Rotating Walls

88. Rotating an existing wall (after it has been drawn) is likewise presented in an identical manner in the two programs. In both cases having selected Rotate above, the user must select a rotation point, then move the mouse to change the wall orientation (screen shot from 20-20 Design).

20-20 Design**ProKitchen****Copied Element #33: Extruding Walls**

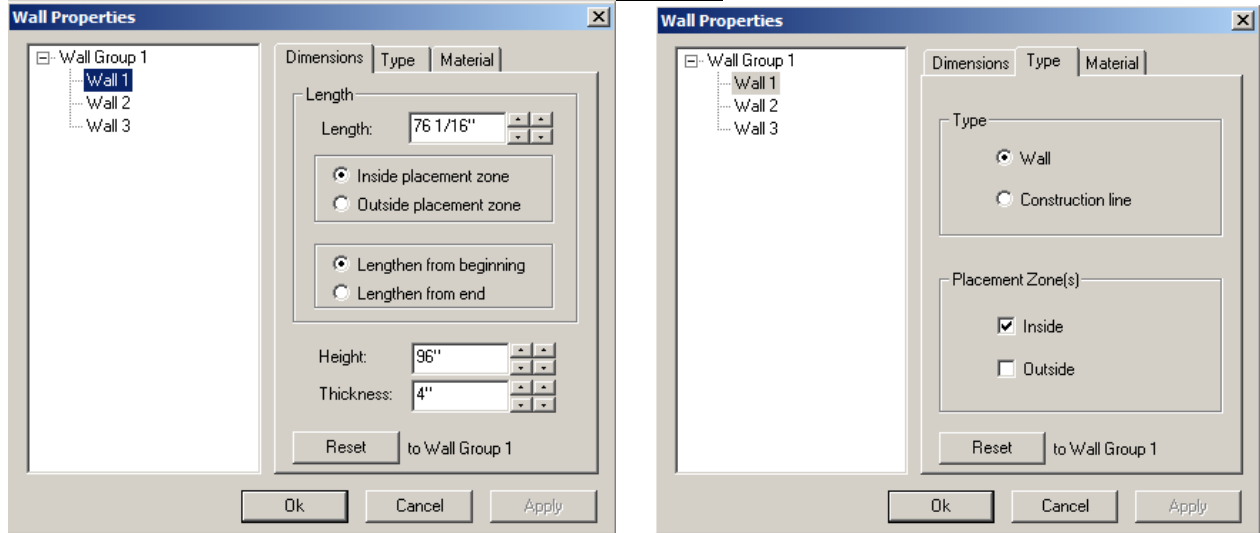
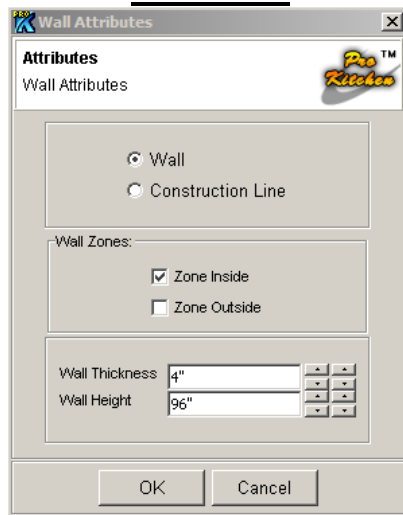
89. Both 20-20 Design and ProKitchen also offer the option to “extrude” a wall, by which they mean place a U-shaped indentation in the wall. They offer not just the same functionality, but the same means of expressing it: a command called “extrude,” in a context menu, as well as having the user select one end of the extrusion, then drag the mouse to indicate its width and depth.. Once again, none of the six competing programs offers this expression (nor for that matter, the functionality). While Chief Architect has an Extrude command, it expresses the far more traditional CAD-related meaning of taking a 2 dimensional face and moving perpendicular to the face to create a solid.

Copied Element #34: Deleting Walls

90. Both programs share similarity of expression in deleting walls, as illustrative above.

MODIFYING THE DETAILS OF A WALL**Copied Element #35: Dialog Boxes and Editing Choices for Modification of Wall Properties**

91. Walls have similar properties in both programs and there is extensive similarity in the selection and arrangement of dialog boxes and choices that appear in order to enable the user to modify these properties:

Design 20-20**ProKitchen**

Copied Elements #36-38: Changing Types of Walls, Moving, Adding and Removing a Placement Zone, Changing the Thickness and Height of a Wall

92. Note that in both cases you are presented with the choices of changing a wall to/from a construction line, adding or removing the inside or outside placement zone, and changing thickness and height.

93. Both programs use the same terminology of “construction line” to indicate a line used for aligning items on the design that is not a physical wall. A search through the manuals of other substantial programs (e.g., Chief Architect) demonstrates that this term – construction line – is not a widely used term of art, and hence its appearance in both programs is revealing.

94. Consider too, that there is no particular reason a line used to align items should even be considered as a kind of wall. To the new user the notion that there are two kinds of walls – one real and one not – is confusing. Surely the same concept could appear in either program on its own, i.e., not as a variation on wall type, but as a wholly different notion. Yet it is the same, slightly confusing idea, in both programs.

95. Mr. Abbott agrees that “the use of the term ‘construction line’ to represent a phantom wall is unusual in CAD software.” (Abbott Report, ¶26). The best defense he can find is that “using the term ‘construction line’ to mean a phantom wall would not be confusing to a professional user, nor would it present any difficulty to a new user.” (Abbott Report, ¶26). So Real View’s own expert agrees that the use of construction line to represent a phantom wall is “unusual,” an unusual usage found in both 20-20 Design and ProKitchen.

PLACING KITCHEN DESIGN COMPONENTS

Copied Element #39: Four Ways to Place Kitchen Design Components

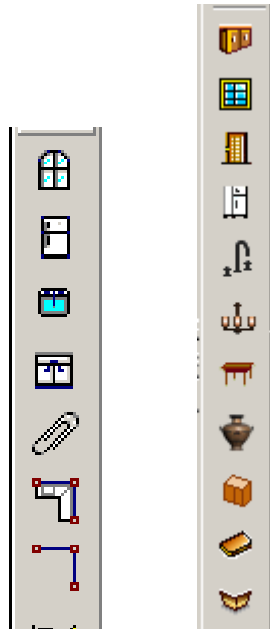
96. The interface for placing a wide variety of items (windows, doors, appliances, plumbing, cabinets, etc.) is again quite similar between the two programs. As placing these items is a substantial

part of using the program, the extensive overlap here is of note. First, there are four ways that both interfaces provide for placement:

- the Place menu (discussed further below as Copied Element #40)
- the relevant icon on the vertical toolbar
- navigating through the Drag & Drop list (discussed further below as Copied Elements #41 and #42)
- using the Search/Find window

97. The functionality here – putting items into the design – is clearly required by the task; the choice of interface elements by which to accomplish this, however, is an expressive choice made by the program designers.

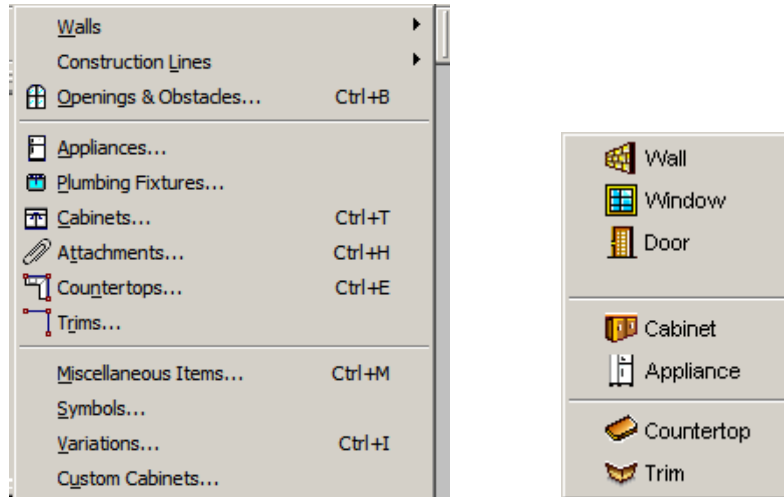
98. The vertical toolbars present similar choices in similar icons and similar order:



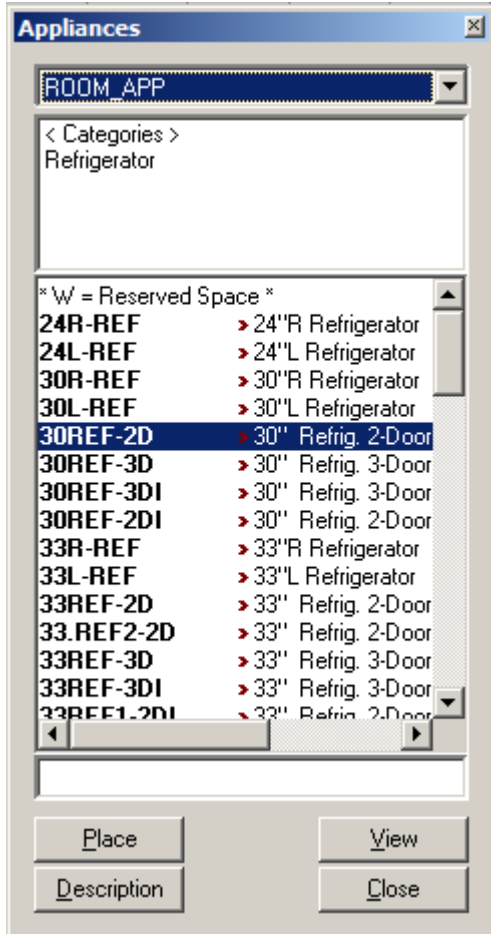
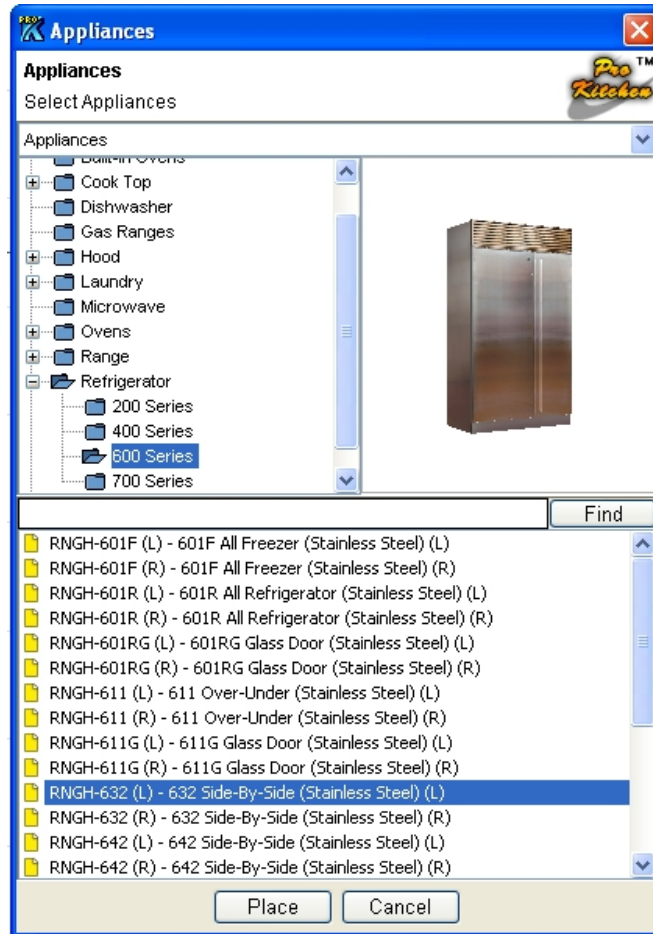
99. While all of the competing programs I examined offer the function of placing items in the design, only *one* comes close to expressing it the way 20-20 Design and ProKitchen do. Of eight total programs, only 20-20 Design and ProKitchen express it in these four ways, with some small similarity to Chief Architect.

Copied Element #40: Expression in Placing an Item – Selecting the Item from a List and Choosing Place

100. The Place menus, as noted, have many of the same selections in the same order.



101. The Place window allows users to select an item from the list, then choose the Place button. In both programs, after the item (e.g., refrigerator) is placed, the Place window shown below pops up again, to allow the user to place another item.

20-20 Design**ProKitchen**

102. In addressing use of the Place menu to place items, Real View states:

In many instances the sequence of commands is determined by the logic of a CAD software application. Windows users, and more specifically CAD users, expect to see a certain “logic” to a CAD program, just as the user of a word processor expects to see familiar commands in familiar places. For example if one wanted to put a cabinet or chair in a design, convention suggests that the user go to the “Place” command on the main menu, where the user would be presented with a choice of objects to “Place” in the design.

(Zeldin Affidavit, ¶37)

103. Consider in particular the claim that “...if one wanted to put a cabinet or chair in a design, convention suggests that the user go to the ‘Place’ command on the main menu, where the user

would be presented with a choice of objects to ‘Place’ in the design.” We consider six other kitchen design programs to see how each one places a cabinet or chair.

- a. Planit Fusion Live: there is a Place menu, but it cannot be used to place cabinets and chairs. To place a cabinet you click on the + to display the Add Palette, go to the Add Palette and click to select the right category of item (e.g., cabinet), click on the correct item, then place it on the design.
- b. Chief Architect: there is no Place menu. There is a Build menu, which has the ability to add cabinets and other items to the design and is similar to the Place command in 20-20 Design and ProKitchen.
- c. Sweet Home: there is no Place menu. There is instead a hierarchy of items that can be traversed to find the relevant object (e.g., cabinet), which can then be added to the design.
- d. KitchenDraw: there is a Place menu, but it cannot be used to place cabinets, etc., offering only a Wall placement command. Other objects are added to the design by traversing the object hierarchy at the right of the screen.
- e. Pro100: there is no Place menu. Objects are added to the design using the Edit menu, then the Insert from Catalog menu item.
- f. CET Designer: there is no Place menu; items are added to the design by selecting them from the palette at the left of the screen.

104. In other words, despite Mr. Zeldin’s claim that “...convention suggests that the user go to the ‘Place’ command on the main menu, where the user would be presented with a choice of objects to ‘Place’ in the design,” four of six competing kitchen design programs do not even have a Place command on the main menu, and the two that have it do not offer the ability with that command to

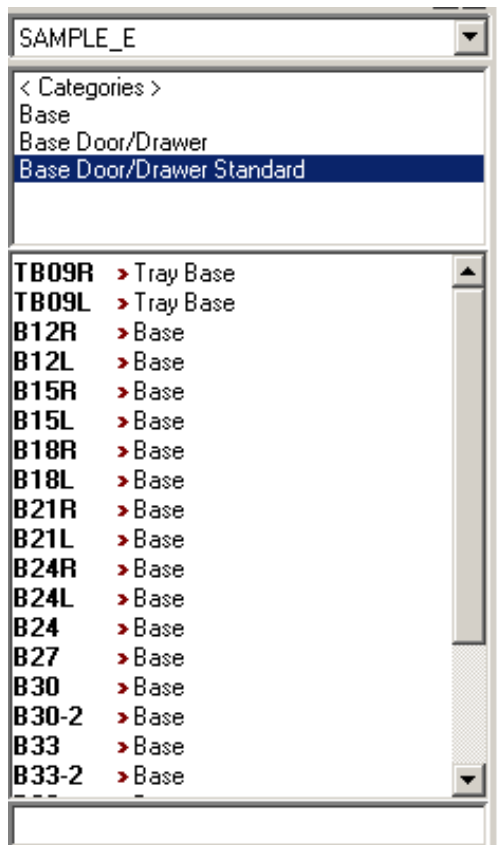
place anything but walls. Only Chief Architect offers a command (Build) that is similar to Place in 20-20 Design and ProKitchen.

Copied Elements #41 and #42: Placing an Item by Drag & Drop, Beginning in “Drag Mode” by Default

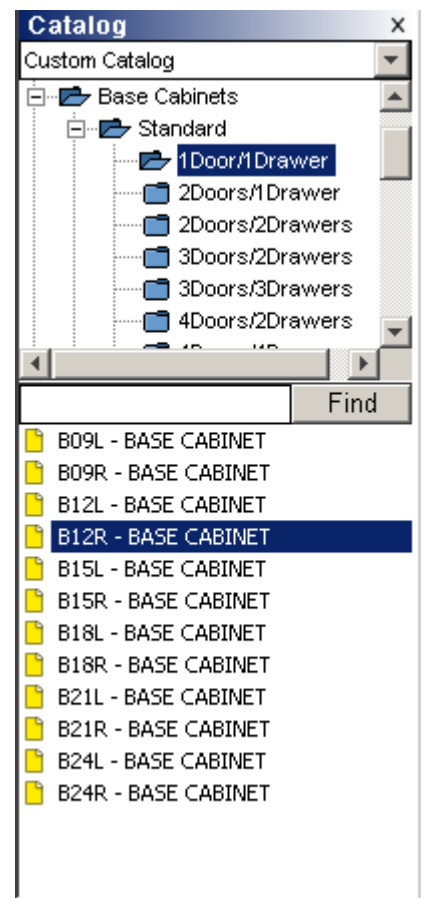
105. Both programs allow users to drag and drop items from the Drag & Drop list.

Navigating the Drag & Drop list is also presented similarly:

20-20 Design



ProKitchen



106. Both programs also start in “drag mode” by default.

Copied Element #43: Items Placed are Connected to a Wall or Construction Line

107. Once an item is placed on the design, in both programs the interface makes it clear that the item can be put against a wall, set against a construction line, or left free-standing. The similarity

here is in the expression of the idea that objects can “attach” themselves to a particular point on the floor plan.

Copied Element #44: Placing Items by Typing in the Item Location

108. Both programs allow the user to type in the item location in the edit box.

20-20 Design

Name:	Value
Wall left	51"
Center	57"
Wall right	13 1/16"

ProKitchen

Edit	
Left:	53 5/8"
Center :	59 5/8"
Right :	10 3/8"

Copied Element #45: Placing Items in Both Plan View or Elevation View

109. Both programs allow the user to place an item in either the plan view or elevation view.

Copied Element #46: Overriding Collision Detection via the Control Key

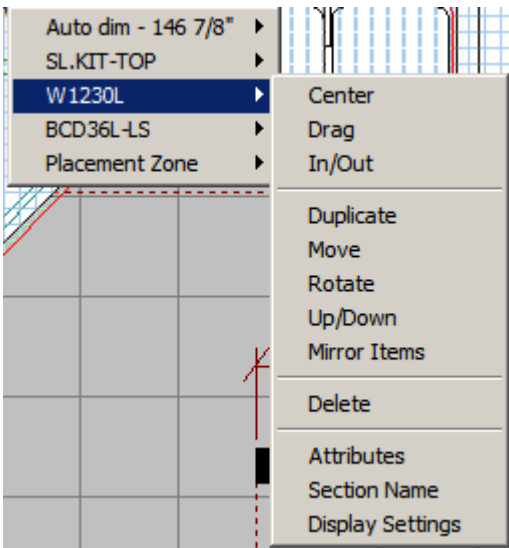
110. In both programs, in the event that items are positioned by the user so that they would overlap, both programs provide a collision detection warning (which is not unusual). More significantly, both programs permit the user to override collision detection via the Control key.

MODIFYING KITCHEN DESIGN COMPONENTS

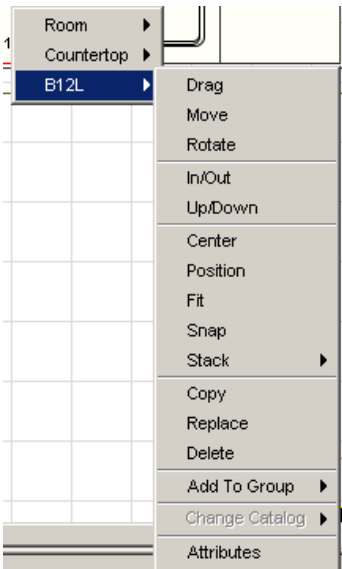
Copied Element #47: Similar Expression in Attributes/Attribute Menu

111. In both programs a variety of useful (and similar) choices are presented through the context menu. Note the overlap in names (and some ordering) for Center, Drag, In/Out, Move, Rotate, and Up/Down (Delete and Duplicate/Copy are routine Windows items):

20-20 Design

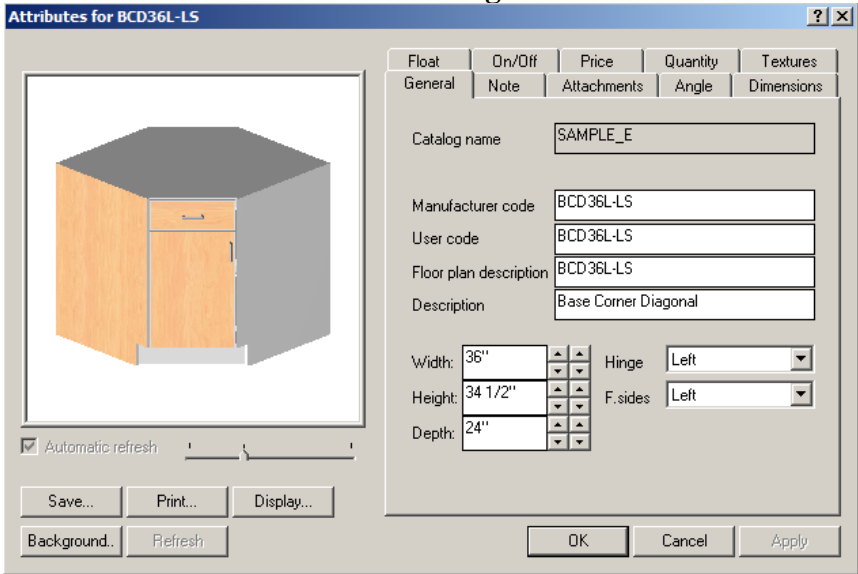


ProKitchen



112. In both programs, items placed in the design can be modified through the use of the Attributes/Attribute menu. The example of cabinet modification provides an example of the similarity of interface choices. Both have a General and Accessories tab, a catalog description, and the ability to modify the size of the object, using an identically configured user interface: there are two up/down buttons side by side (shown expanded below), with the first button controlling 1-inch changes, and the second controlling 1/16th inch changes.

20-20 Design



ProKitchen

Attributes for BLSP39L

Attributes
Item Attributes

General Accessories Modifications

Catalog: Custom Catalog SKU: BLSP39L

Description: SOSS HINGED PIE CUT BASE CABINET. (D)

Plan Notation

Qty: 1 Base Doors: 2

Price: 0 Wall doors: 0

Width: 39" Drawers: 0

Depth: 24" Shelves: 0

Height: 34 1/2" Dept: C

F. Side: Upper Doors As

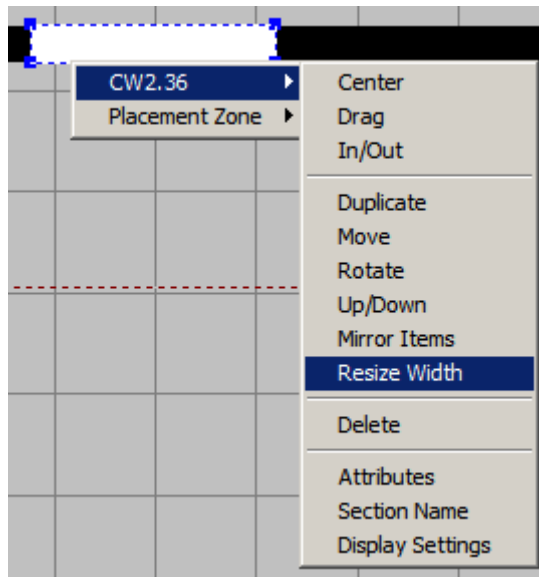
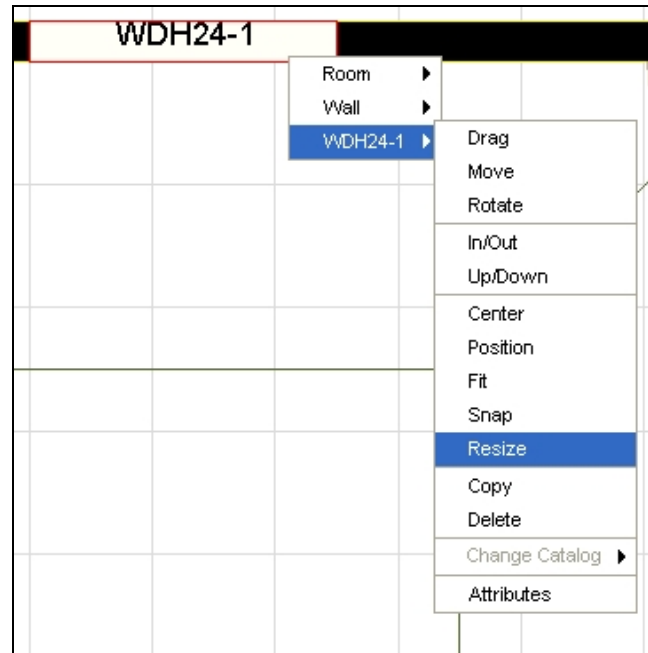
Notes

Ok Cancel

Catalog Defaults

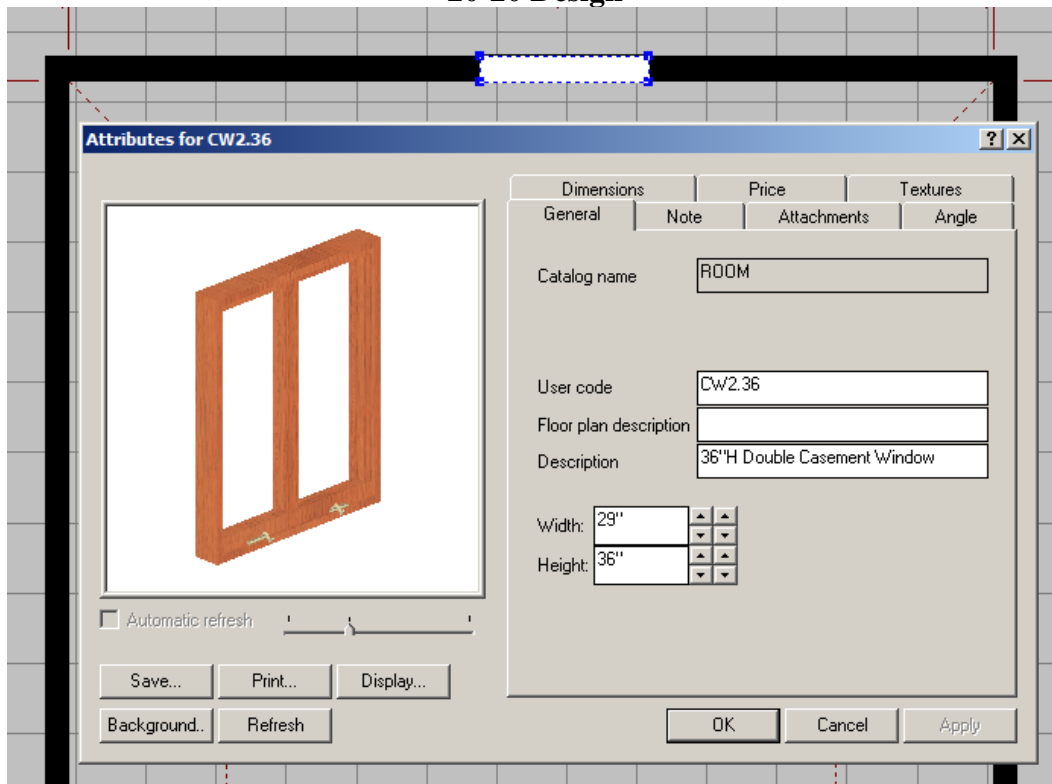
MODIFYING WINDOWS AND DOORS**Copied Element #49: Resizing Windows and Doors Via the Resize Option Available Through a Right Click**

113. Both programs share similarity of expression in resizing windows and doors after they are placed via right clicking and selecting the resize option.

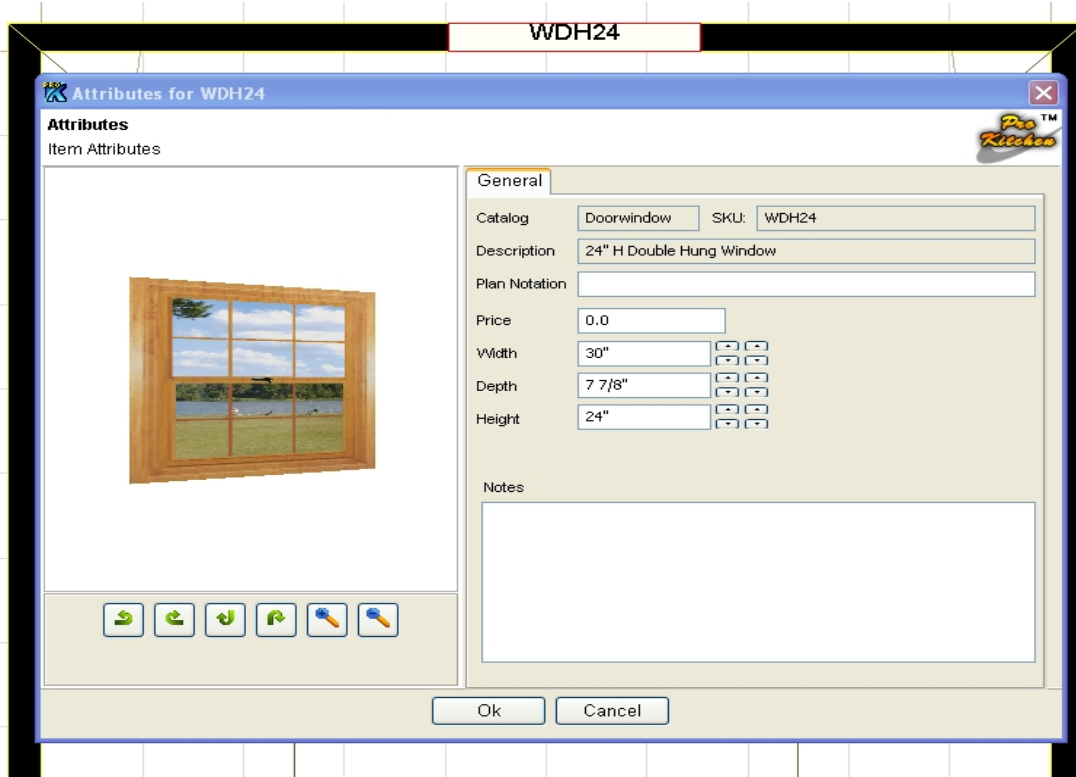
20-20 Design**ProKitchen****Copied Element #50: Resizing Windows and Doors Via the Attributes Option Available Through a Right Click**

114. Both programs share similarity of expression in resizing windows and doors after they are placed via right clicking and selecting attributes.

20-20 Design

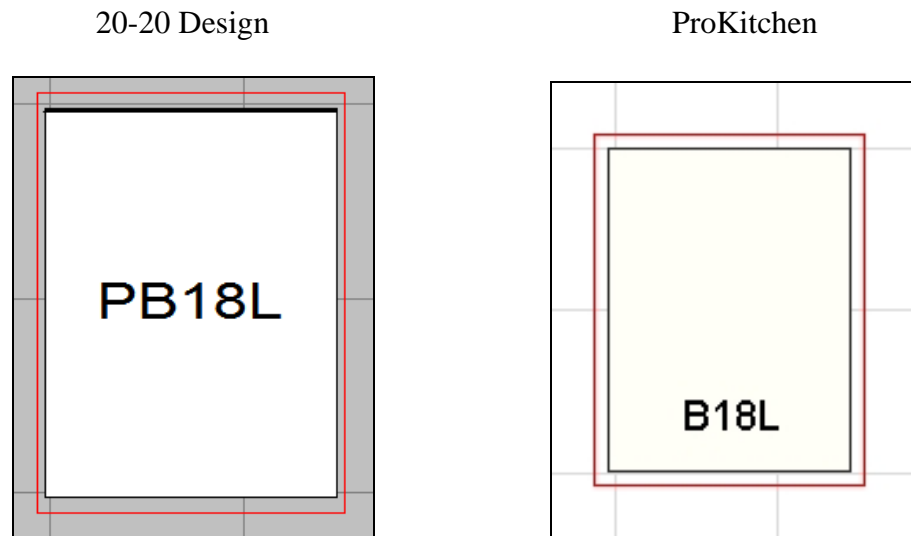


ProKitchen



ADDING COUNTERTOPS**Copied Element #51: Automatic Addition of Countertops to All Base Cabinets**

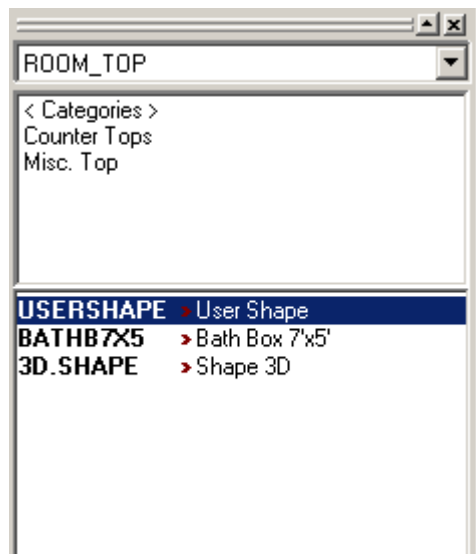
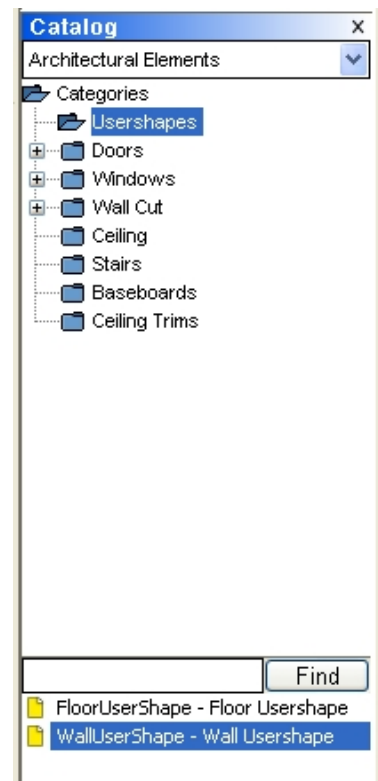
115. Both programs automatically add countertops to all base cabinets. In 20-20 Design the user is given a choice of countertop types, while in ProKitchen the system defaults to a standard type.

**Copied Element #52: Automatic Application of Overhang on All Four Sides of Item if Not Placed On a Wall**

116. Both programs apply an overhang on all four sides if the item is not placed in contact with a wall.

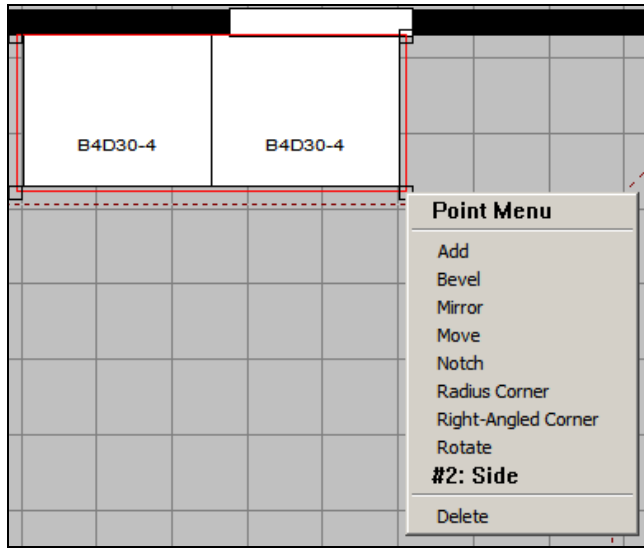
Copied Element #53: Use of a Rectangular Countertop Shape Called “User Shape”

117. Both programs use a rectangular countertop shape called “User Shape” that can be placed on the floor plan or elevation view, and then modified.

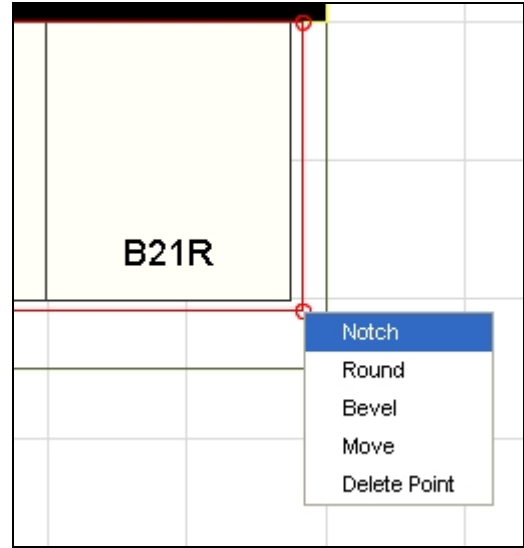
20-20 Design**ProKitchen****EDITING COUNTERTOPS****Copied Element #54: Similar Options Available to Edit the Shape of a Countertop**

118. In both programs, the user can change the shape of a countertop through similar options: Extrude, Intersect, Add Point, Radius, Notch, Bevel, etc.

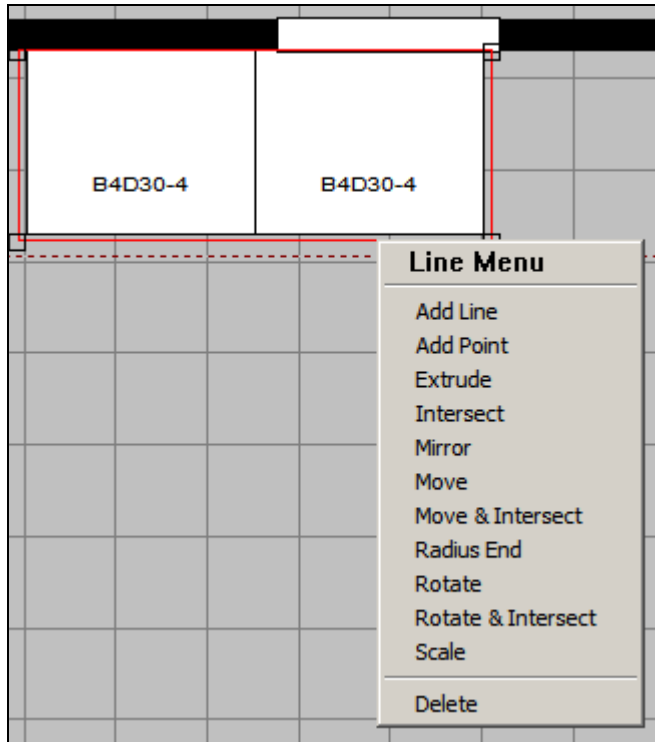
20-20 Design



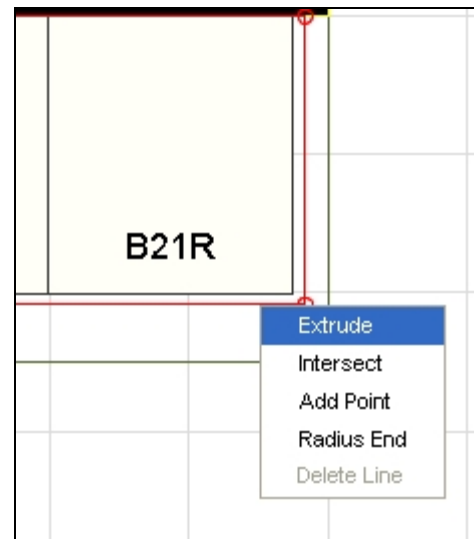
ProKitchen



20-20 Design



ProKitchen



BILL OF MATERIALS**Copied Element #55: Presentation and Nomenclature of Bill of Materials**

119. Both programs offer a Bill of Materials interface. A bill of materials is of course a standard element in design, but the choices that have been made in the details of the presentation in the two programs are interesting. The nomenclature (e.g., Plan Item, Non-Plan Item) is similar, as is the concept of a non-plan item.

20-20 Design

Plan Items							
	Qty	Catalog	User Code	Description	Finished Side	Note	Price
1	1	ROOM_APP	24.DISHW	24" Dishwasher	None	<input type="checkbox"/>	\$0.00
2	1	ROOM_APP	30-GAS-RANGE5	30" Gas Range #5	None	<input type="checkbox"/>	\$0.00
3	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1	None	<input type="checkbox"/>	\$0.00
3.1	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1 (12 5/16")	None	<input type="checkbox"/>	\$0.00
3.2	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1 (17 11/16")	None	<input type="checkbox"/>	\$0.00
3.3	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1 (13 3/16")	None	<input type="checkbox"/>	\$0.00
3.4	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1 (12 3/4")	None	<input type="checkbox"/>	\$0.00
4	1	SAMPLE_E	96T.MLDG-1	Top Molding #1	None	<input type="checkbox"/>	\$0.00
4.1	1	SAMPLE_E	96T.MLDG-1	Top Molding #1 (12 5/16")	None	<input type="checkbox"/>	\$0.00
4.2	1	SAMPLE_E	96T.MLDG-1	Top Molding #1 (17 11/16")	None	<input type="checkbox"/>	\$0.00
4.3	1	SAMPLE_E	96T.MLDG-1	Top Molding #1 (13 3/16")	None	<input type="checkbox"/>	\$0.00
4.4	1	SAMPLE_E	96T.MLDG-1	Top Molding #1 (12 3/4")	None	<input type="checkbox"/>	\$0.00
5	1	SAMPLE_E	96W.TOE	Toe Base	None	<input type="checkbox"/>	\$0.00
5.1	1	SAMPLE_E	96W.TOE	Toe Base (21 3/16")	None	<input type="checkbox"/>	\$0.00
5.2	1	SAMPLE_E	96W.TOE	Toe Base (48")	None	<input type="checkbox"/>	\$0.00
6	1	SAMPLE_E	B12L	Base	None	<input type="checkbox"/>	\$240.00
7	1	SAMPLE_E	BCD36L-LS	Base Corner Diagonal	Left	<input type="checkbox"/>	\$520.00
7.1	1	SAMPLE_E	BLS	Base L.Susan	None	<input type="checkbox"/>	\$125.00
8	1	ROOM	D.INT-R	Interior Door R	None	<input type="checkbox"/>	\$0.00
8.1	1	ROOM	LSPACE	Left Reserved Space	None	<input type="checkbox"/>	\$0.00
8.2	1	ROOM	RSPACE	Right Reserved Space	None	<input type="checkbox"/>	\$0.00
9	1	ROOM	E36.DB-HUNG-1	36"H Dble Hung Window #1	None	<input type="checkbox"/>	\$0.00
9.2	1	ROOM	LSPACE	Left Reserved Space	None	<input type="checkbox"/>	\$0.00
9.1	1	ROOM	RSPACE	Right Reserved Space	None	<input type="checkbox"/>	\$0.00
10	1	SAMPLE_E	SB36	Sink Base	None	<input type="checkbox"/>	\$384.00
11	1	ROOM_PLU	SK.31-2TUB	31" 2 Tub Sink	None	<input type="checkbox"/>	\$0.00
12	1	SAMPLE_E	SL.KIT-TOP	Slab Kitchen Top	None	<input type="checkbox"/>	\$0.00
12.1	1	SAMPLE_E	8X25KITT	8' Slab Kitchen Top 25" (37")	None	<input type="checkbox"/>	\$0.00










Non-Plan Items							
	Qty	Catalog	User Code	Description	Finished Side	Note	Price
	1	ROOM			None		
						Total selected items:	\$0.00
						Total price:	\$0.00

Calculated Items							
	Qty	Catalog	User Code	Description	Finished Side	Note	Price
1	8	SAMPLE_E	8X25KITT	8' Slab Kitchen Top 25"	None	<input type="checkbox"/>	\$160.00
2	1	SAMPLE_E	96B.MLDG-1	Bottom Molding #1	None	<input type="checkbox"/>	\$50.00
3	1	SAMPLE_E	96T.MLDG-1	Top Molding #1	None	<input type="checkbox"/>	\$50.00
4	1	SAMPLE_E	96W.TOE	Toe Base	None	<input type="checkbox"/>	\$15.00
5	14	SAMPLE_E	SPLASH-A	Backsplash Type A	None	<input type="checkbox"/>	\$420.00
						Total selected items:	\$0.00
						Total price:	\$695.00

Accessories & Extra Costs							
	Qty	Catalog	User Code	Description	Finished Side	Note	Price
	1	ROOM					
						Total selected items:	\$0.00
						Total price:	\$0.00

ProKitchen

BOM

Plan Items	Non-Plan Items	Additional Products									
<div><div></div></div>											
#	Qty	Catalog	SKU	Description	Width	Height	Depth	Finish End	Hinge	Price	Ext.Price
1	1	Custom Catalog	2DB12	2-DWR. BASE CABINET	12"	34 1/2"	24"			0.00	0.00
2	1	Custom Catalog	2DB15	2-DWR. BASE CABINET	15"	34 1/2"	24"			0.00	0.00
3	1	Custom Catalog	2DB36	2-DWR. BASE CABINET	36"	34 1/2"	24"			0.00	0.00
4	1	Custom Catalog	WC2424RL	WALL CORNER CABINET	24"	24"	12"			0.00	0.00
5	1	Custom Catalog	B30	BASE CABINET	30"	34 1/2"	24"			0.00	0.00
6	1	Custom Catalog	B30	BASE CABINET	30"	34 1/2"	24"			0.00	0.00
7	1	Custom Catalog	W1230L	WALL CABINET	12"	30"	12"			0.00	0.00
									Total:		0.00

OVERALL CONDITIONS FOR STYLES AND PRICING
Copied Element #57: Styles and Pricing/Global Options

120. The Styles and Pricing interface in 20-20 is closely matched by the Global Options interface in ProKitchen.

20-20 Design

	Style	Value
1	Base Door Upcharge	Baskerville
2	Wall Door Upcharge	Baskerville
3	Tall Door Upcharge	Amsterdam
4	Drawer Upcharge	
5	Door Pull	
6	Drawer Pull	
7	Wood Premium	
8	Finish Premium	

ProKitchen

Global Specifications	Options
==== Others ====	
Wood	Birch
Finish Color	Light Stain
Distressing	None
Cabinet Style	Flush Inset
Base Door	Beaded Shaker
Wall Door	Beaded Shaker
Drawer	Beaded Shaker Drawer
Door Hardware	Sample14-PB
Drawer Hardware	Sample15-PB


Options
None
Sample10-PC
Sample11-SS
Sample12-PB
Sample13-SS
Sample14-PB
Sample15-PB
Sample16-SS
Sample17-PB
Sample18-SS
Sample19-AB
Sample1-AB
Sample20-IR

PRINTED VERSION OF THE DESIGN


Copied Element #58: Ungrammatical Legend

121. Consider finally the legend printed out by both programs when producing floor plans. It appears at the bottom right of each page, and is formatted identically, with a caution about dimensions in the first box, the program logo in the second, an intellectual property claim in the third, and design/print dates in the fourth. Under that we find the file name at the left followed by the drawing number.

20-20 Design Version 6.1

All dimensions size designations given are subject to verification on job site and adjustment to fit job conditions.		This is an original design and must not be released or copied unless applicable fee has been paid or job order placed.	Designed: 5/2/2009 Printed: 5/4/2009
Design3.kit		Fp 1	Drawing #: 1

ProKitchen 2.0

All dimensions size designations given are subject to verification on job site and adjustment to fit job conditions.		This is an original design and must not be released or copied unless applicable fee has been paid or job order placed.	Designed: 06.06.07 Printed: 06.06.07
Design: Design File Name	Drawing #: 1	Display settigs 5/16" = 1'	

122. Given the similarity of layout, it is tempting to infer that the ProKitchen design was accomplished by simply substituting their logo for 20-20's, and making a few other cosmetic changes.


123. The possibility that this is indeed correct rises considerably when we look carefully at the phrasing for the warning in 20-20's version 6.1 and ProKitchen's version 2.0. Note that the text is first of all verbatim identical:

All dimensions size designations
given are subject to verification
on job site and adjustment to
fit job conditions.

124. Second, note that this is ungrammatical: there's a word (or comma) missing in the first line, as Real View developers eventually noted: version 3.0 of ProKitchen starts the warning with "All dimensions *and* size designations..." [emphasis added]. Clearly, the presence of verbatim ungrammatical English cannot be explained by the need for functional competition; it suggests instead the single-mindedness with which ProKitchen designers approached their task as one of imitating the selection and arrangement of the 20-20 interface design.

125. Real View claims to have "...provided numerous examples of similar or identical 'legends' that are available on the Internet. (Ex. D, p. 71-75)." There is one problem with several of the examples of identical legends (Zeldin Exhibit D, pages 72 and 73) – they are instances of 20-20 software, specifically they show legends produced by 20-20 Design version 6.4, evidently when it was licensed to other users.

126. The evidence for this is clear if we examine a close-up of the legend created by 20-20 Design, version 6.4, and note the spurious underbar character preceding the word "size":

<p>All dimensions _size designations given are subject to verification on job site and adjustment to fit job conditions.</p>	
--	---



127. The legend produced by version 6.4 had this mistake in it. A close examination of four examples cited by Mr. Zeldin beginning on page 72 of his Exhibit makes it clear ProKitchen, too, has this spurious character, and that character could only have come from the 20-20 Design software.

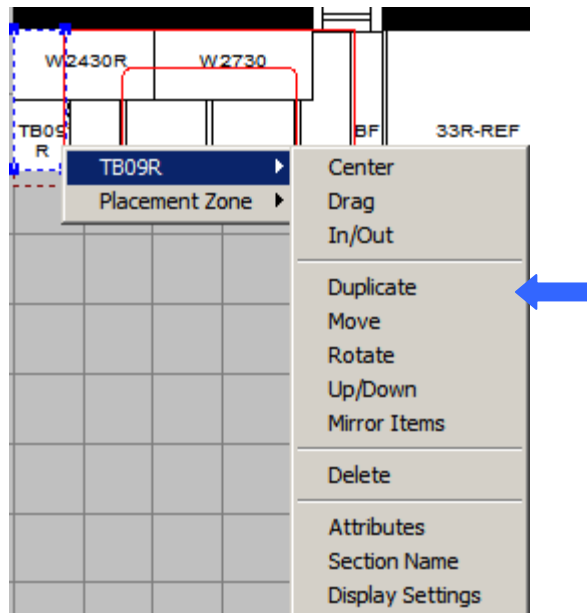
128. Only 20-20 Design and ProKitchen version 2.2.0 share the same mistake in the wording of the legend, making it clear how diligently Real View programmers copied 20-20 software.

129. Mr. Zeldin also claims that the text can be changed. (Zeldin Affidavit, ¶69) Indeed it can, but the question here is not whether the user can make the programs express themselves differently, it's whether Real View produced a program substantially similar to 20-20 Design, which it did.

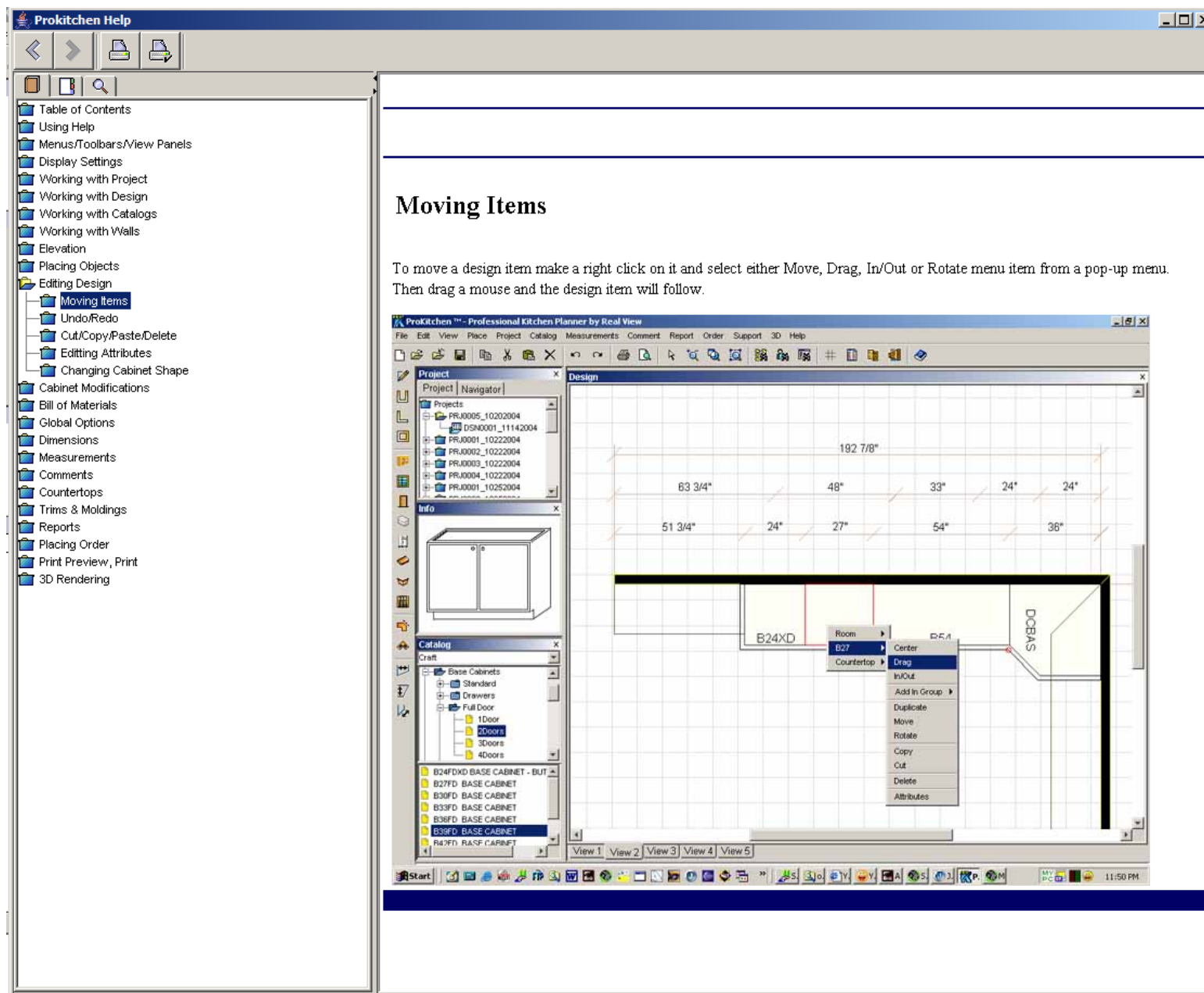
DUPLICATING AN ITEM WITH A SINGLE COMMAND

Copied Element #59: ProKitchen 2.2 Help - Duplicate

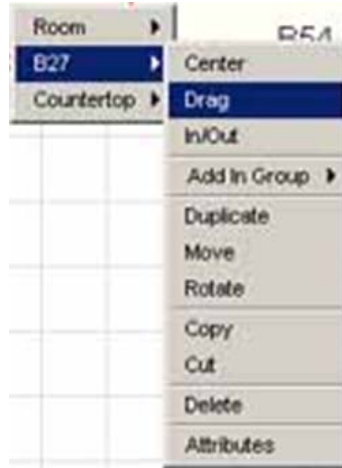
130. The 20-20 Design program has a command to Duplicate an object in response to a right click on it:



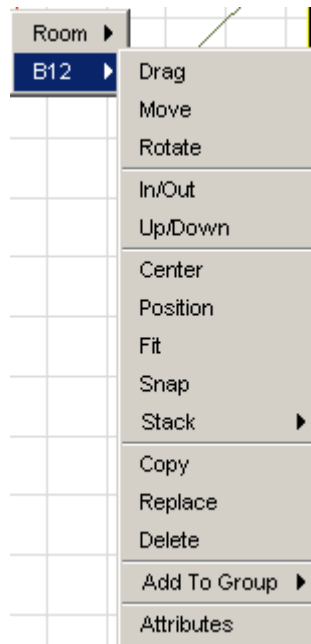
131. ProKitchen has a similar *functionality*, i.e., the ability to duplicate an item, via its Edit, Copy menu items, yet, curiously, the Help file for ProKitchen 2.2.0 contains the following illustration:



132. Zooming in on the context menu that appears in that figure,

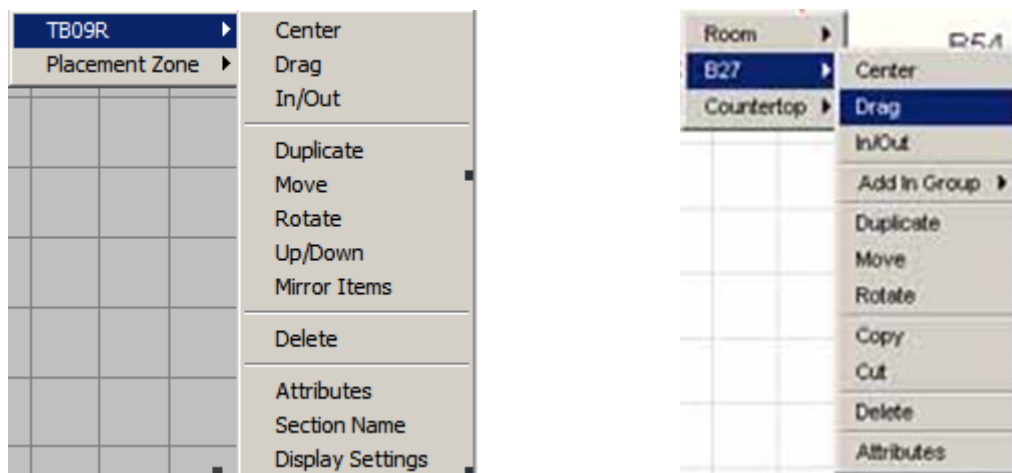


we can see that the Help file in ProKitchen 2.2.0 indicates that the program contains a Duplicate command in the context menu. This is not true, there is no Duplicate command in the program. Here's the context menu that appears in actual use:



133. Simply put, the Help files in ProKitchen 2.2.0 advertise a context menu that (a) is different from the one in that actually appears in use, (b) that contains a Duplicate command that appears nowhere in the program, and (c) is in fact similar to the actual context menu from 20-20

Design, version 6.1. Here, side by side, are the context menu for 20-20 Design and the illustration from ProKitchen 2.2.0 Help:



Context menus for 20-20 Design version 6.1 (left) and Help file from ProKitchen 2.2.0

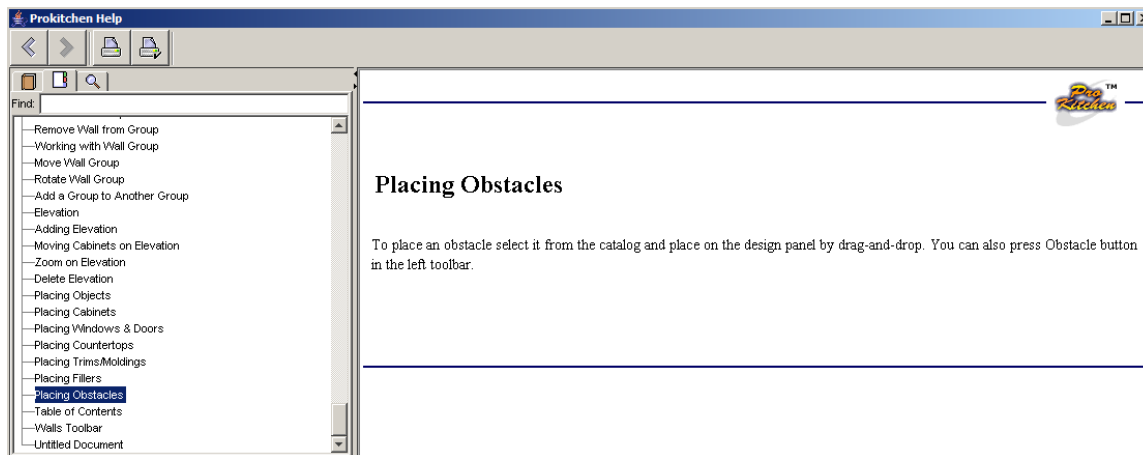
134. Note the substantial overlap in selection and arrangement: both have identical names in the same order: Center, Drag, In/Out, Duplicate, Move, Rotate, Delete, Attributes.

135. The most plausible explanation for this is that Real View wrote the Help file as a sort of design document, and they did so by copying 20-20 Design's menus quite closely. They later evidently changed the actual design of the program, but left behind the evidence of their copying in the Help files.

ADDING AN "OBSTACLE" TO THE DESIGN"

Copied Element #60: ProKitchen 2.2 Help – Obstacle

136. 20-20 Design has the ability to place what it called Obstacles in the room and an icon/button for this in the vertical toolbar. As Mr. Abbott indicates "The use of the phrase 'Openings & Obstacles' as used in 20-20 Design is unusual – possibly unique – and doesn't appear on the ProKitchen menu." Interestingly, while it does not appear in ProKitchen menus, it does appear in ProKitchen 2.2.0 Help:



137. The Help file says that “You can also press the Obstacle button on the left toolbar.”

Alas, there is no Obstacle button on the left toolbar, at least not in ProKitchen. There is such a button in 20-20 Design.

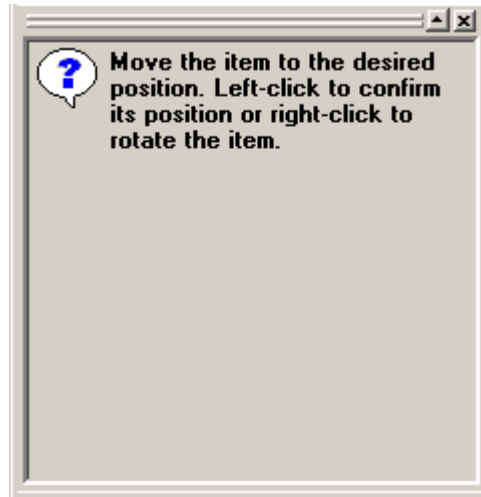
DESCRIBING THE BEHAVIOR OF THE INFORMATION PANEL

Copied Element #61: ProKitchen 2.2 Help – “Info Panel”

138. The Help file in ProKitchen 2.2.0 labeled Info Panel claims that [emphasis added]:

The Info Panel displays *both the images of the catalog items and info messages with the instructions on the performed tasks*. The Info Panel is accessible from View/Info menu item. It can be resized by dragging the panel's border up or down. You can close it by pressing on x button at the right upper corner.

139. This, too, is not true for ProKitchen, but is true for 20-20 Design. 20-20 Design first shows an image of the selected item, then replaces the picture of the item with what might accurately (if somewhat ungrammatically) be described as “info messages with the instructions on the performed tasks”:



140. Interestingly, ProKitchen version 3.0 changes the Help text for this item, saying:

This panel allows you to view what the selected cabinet looks like before placing it on the floorplan. You have the option of viewing the cabinet in a black and white image or in a fully-rotational color 3D view. Please note: You can change between the two viewing options [sic] by double-clicking on the image in this panel.

141. In other words, ProKitchen 3.0 Help describes what ProKitchen software actually does, while the ProKitchen 2.2.0 help describes 20-20 Design.

142. So while Mr. Zeldin claims that "...Real View has not copied any of the menus in 20-20 Design," (Zeldin Affidavit, ¶33) the evidence is clear that they did, and they did it so thoroughly that some of the Help files in ProKitchen 2.2.0 are a more accurate description of 20-20 Design than they are of ProKitchen

THE ABSTRACTION FILTRATION COMPARISON TEST

143. There are several ways in which the programs mentioned in this case may usefully be abstracted. One way concerns the category of the program (Fig 1). At the most abstract level these are all computer programs (of course). More specifically they are all CAD programs; more specifically they are architectural CAD (rather than, e.g., mechanical CAD, like e.g., SolidWorks or AutoCAD, or other CAD domains); more specifically they are kitchen design CAD; and more specifically yet they may be kitchen design CAD programs intended for CAD professionals, or they may be kitchen design

CAD programs intended for kitchen sales personnel. In this last category we find 20-20 Design, ProKitchen, and five of the six other programs listed at the beginning of this document (Sweet Home 3D, as noted, is oriented more toward the homeowner.)

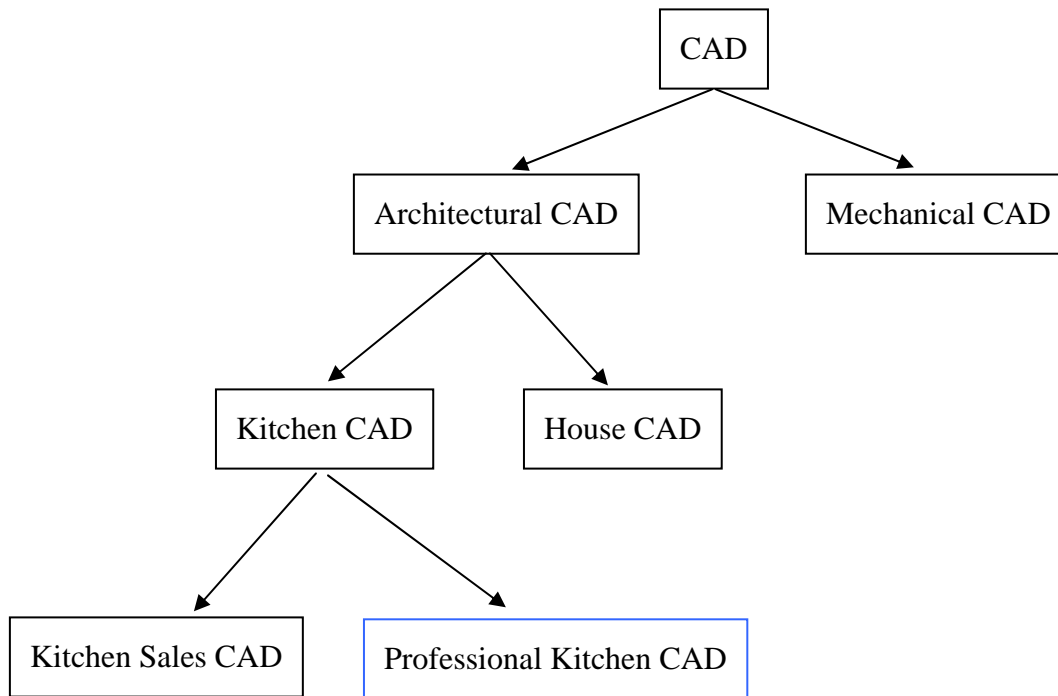


Figure 1: Abstraction hierarchy program category

144. We can also describe an abstraction hierarchy for the interface. At the highest level there is the abstract notion of an interface, then a graphical user interface (GUI) vs. a character-oriented interface. Within GUIs there are interfaces that work strictly from menus selected with the keyboard, those that work from the keyboard for text and use the mouse as a pointing/selecting device, and those that use the keyboard for text and use the mouse as a pointing/selecting device and as a drawing device. (Different combinations of these are of course possible as well.) All these GUI-oriented programs can be further specified as using a single window at once, or (as is more common), permit multiple windows.

145. Finally, we can describe kitchen design programs themselves in several levels of abstraction. At the top is the overall task of kitchen design, at the next level we have the various sub-tasks that go into kitchen design (e.g., create walls, add cabinets, add appliances, add countertops, etc.). At the next level we can break down creating walls, for example, into indicating their location, extent, angular orientation, etc.

146. As much of the discussion in my original report, rebuttal report, and this affidavit concerns similarity and filtering, I will not repeat those details here. Instead I will summarize my opinion by saying that there are substantial similarities in 20-20 Design and ProKitchen, and that the arguments for filtering presented in the Real View documents appear to me to be unconvincing, for the numerous reasons enumerated above.

147. Given the numerous similarities between the two programs that survive filtration, and their level of detail (e.g., the selection and arrangement of displays, selection and arrangement of commands, details of wall drawing, etc.) it seems clear to me that there is substantial unfiltered expression in 20-20 Design that has been copied by ProKitchen.

RESPONSES TO ARGUMENTS MADE BY REAL VIEW

148. With respect to the arguments made by Real View in the Real View Documents, I find that:

- a. The Real View documents attempt to argue, among other things, that the similarities noted in my report of May 5th should be filtered out on the grounds such as "...merger, lack of originality, public domain, scènes à faire, words and short phrases, standard techniques or practices, market/industry demands, considerations of efficiency and compatibility." (Memorandum, ¶6)

- b. These arguments fail, and an abstraction, filtration, comparison analysis of the two programs demonstrates substantial similarities at the level of detailed expression in the two programs.
- c. These arguments fail in many instances because they do not discuss the similarities cited in my report. Instead they set up carefully generalized straw-man stand-ins, then dismiss these objects of their own creation.
- d. As one example, my report indicates (Abbott Report, ¶56) that "...there are four ways that both interfaces provide for placement: the Place menu, the relevant icon on the vertical toolbar, navigating through the catalog categories, using the search/Find window" Mr. Abbott's reply, however, addresses itself to the claim that "... both programs *provide multiple means* of placing content in a design" (Abbott Report, ¶mm) (emphasis added), i.e., he has generalized the similarity from the specific set of four that both programs share, to the far broader claim (not found in my report) that there are simply "multiple means." He can then go on to dismiss his version of the claim by saying that "That is true of most CAD programs." (Abbott Report, ¶mm) Indeed it is true, and this is an effective argument against Mr. Abbott's revised version of the similarity, but it is unresponsive to the claim in my report.
- e. The arguments fail because they at times explicitly ignore expressive aspects of 20-20 software, then claim there is no expression. The selection and arrangement of menu commands, for example, is expressive, yet Mr. Zeldin, in examining the toolbars of 20-20 Design and ProKitchen indicates that "I compare icons on the toolbars based not on their order but on similarities of the underlying features." (Zeldin Exhibit D, pg 41). As another example, their analysis of the "Save as Image" command argues that it is a functionality, and uses the curious claim that Google finds that phrase in numerous

documents. While the idea of saving the design as an image might be found in other programs, if we look at six other programs for kitchen design, we find that one is missing the command entirely, while every one of the other five expresses the idea differently (and uniformly) as “Export.” In other words, of a total of eight kitchen design programs, only 20-20 Design and ProKitchen express the idea as “Save as Image.”

- f. Other arguments fail because they must turn to numerous different programs to find – often one by one – all of the similarities shared by 20-20 Design and ProKitchen. As one general example, Mr. Abbott claims that “Nearly all of the individual interface elements in both programs can be found in other CAD programs, both within the narrow kitchen design field and in other more broadly applied software.” (Abbott Report, ¶7). This is somewhat true in one respect – he focuses on the *individual* differences – and illustrative in another sense: even to find the individual items he must expand his search from kitchen design to “more broadly applied software.” This line of argument is akin to claiming that a novel is not original because each of its words can be found somewhere else.
- g. As another example, my report notes that both programs have “...the same sequence of sub-windows: an information box, an edit box, a hierarchical catalog box, a drag and drop listing.” The response in the Zeldin Affidavit (¶15) indicates that “This concept – having sub-windows that show product/folder directories, object location and an image of the product selected before it is placed on the work area is common to many CAD programs, and I have provided numerous examples of this in Exhibit D, pages 4 - 17.” Mr. Zeldin has indeed provided 14 examples of screen layouts, some of which have some of the sub-windows noted in my report, but none of which have the sequence and

arrangement of windows found in both 20-20 Design and ProKitchen. His claim and examples thus do not address the expressive elements of 20-20 Design.

- h. Some arguments fail on both grounds: the Zeldin reply cited just above goes on to say that “many CAD programs take exactly this approach,” (Zeldin Affidavit, ¶15), which would be relevant, except that by “this approach,” he means simply presenting information about the design in sub-windows (as his examples illustrate). This is of course not the claim in my report; it is instead a generalization of his own invention.
- i. The Real View documents also argue about issues that are irrelevant, claiming, for instance that the sub-windows noted above “...can be selectively minimized, moved to other places on the screen...” (Zeldin Affidavit, ¶15). It is unclear why this should matter in determining whether the screen layouts presented by both programs are similar.
- j. Other arguments appear to invent new theories for filtration. Mr. Abbott replies to the similarity of window layout by noting (¶7) that “The editing screen layout in most CAD software can be customized easily by the user.” This seems to be arguing, remarkably, that the similarity is to be filtered on the grounds that the user can make it go away. While I am not a lawyer, I do have considerable experience with the Abstraction, Filtration, Comparison test, and this does seem to me to be a novel filtration theory.
- k. Other arguments point out differences between the two programs. There are indeed differences, but I understand the issue at hand to be the similarities they share.
- l. Yet other arguments assert claims that are contradicted by very examples the authors cite. Mr. Abbott comments on the similarity in ordering in the vertical toolbars by saying (¶d) that “It is common to place the tools used most often at the top of a vertical

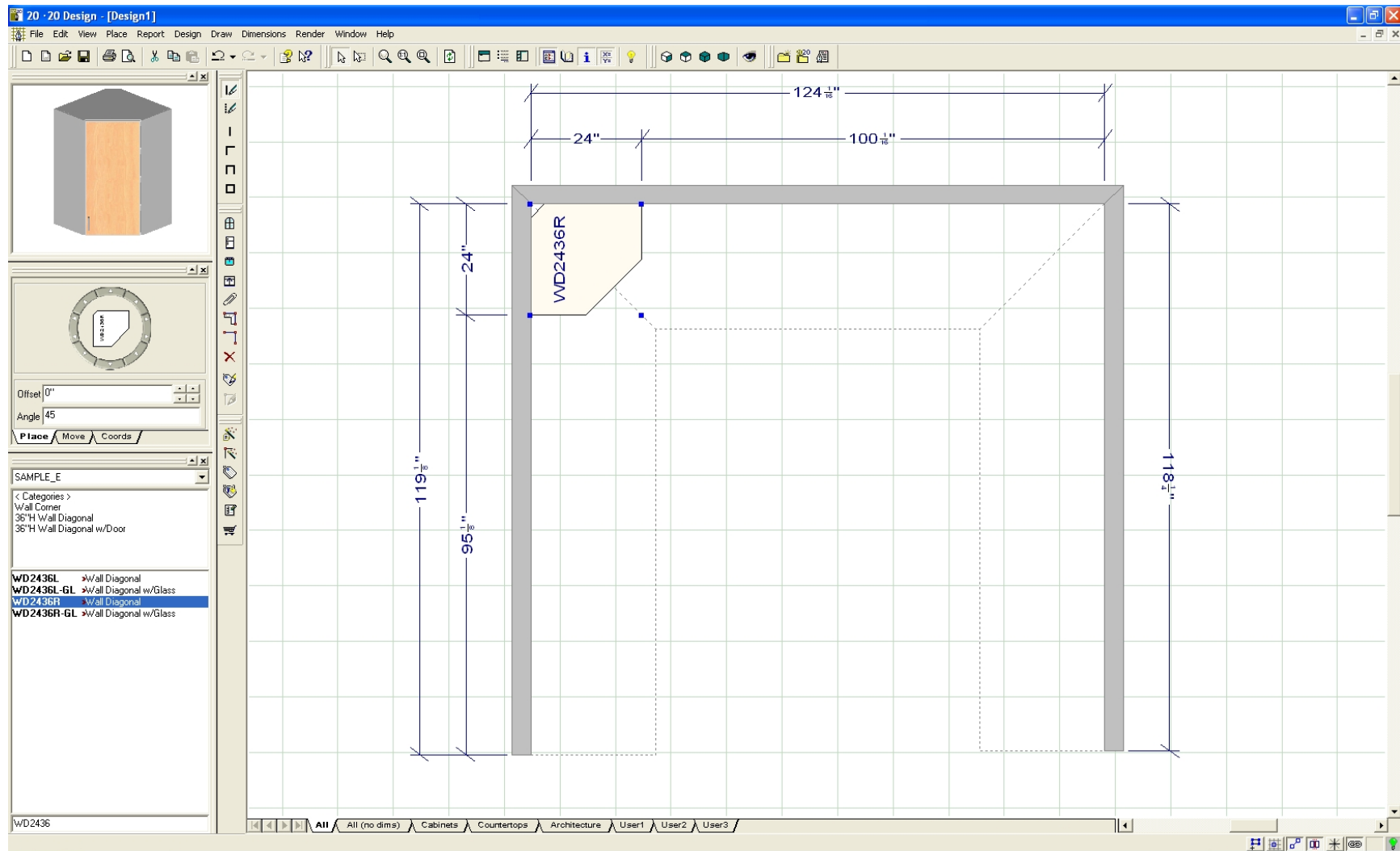
stack, so the tools used most frequently in kitchen design would logically be placed in a similar order.” The problem here is that this is clearly not the ordering principle used in 20-20 Design, yet almost the identical order is found in ProKitchen.

- m. As illustrated above, the Real View documents fail to explore comparable programs and fail to supply examples that illustrate the range of other choices made even by programs within the domain of kitchen design.
- n. Mr. Abbott also does not seem to understand that the market for 20-20 Design is largely computer-aided sales, not computer aided design. That is, the intended user audience is people like the staff at stores ranging from Home Depot to small kitchen retailer showrooms, people who are kitchen designers and builders, not CAD professionals. For this market, the question of what a professional CAD user might do with software is basically irrelevant.
- o. Mr. Abbott suggests that users see splash screens before encountering the primary user interface. This is true, but such screens appear fleetingly, and are in any case rarely shown during demonstrations at trade shows, where the focus is on actual use of the program. Hence prospective customers are unlikely to be exposed to the splash screens.
- p. Mr. Abbott argues that the layouts of ProKitchen and 20-20 Design can be changed by the customer, but this is irrelevant. The question is whether ProKitchen has copied protectable elements of 20-20 Design, not whether the customer is given the ability to hide that copying.
- q. The Abbott Report also claims that the two programs in question “share elements with many other applications.” Again, even if this is true, it is not the issue at hand. The question is not whether each one of the elements in the interface of 20-20 Design can

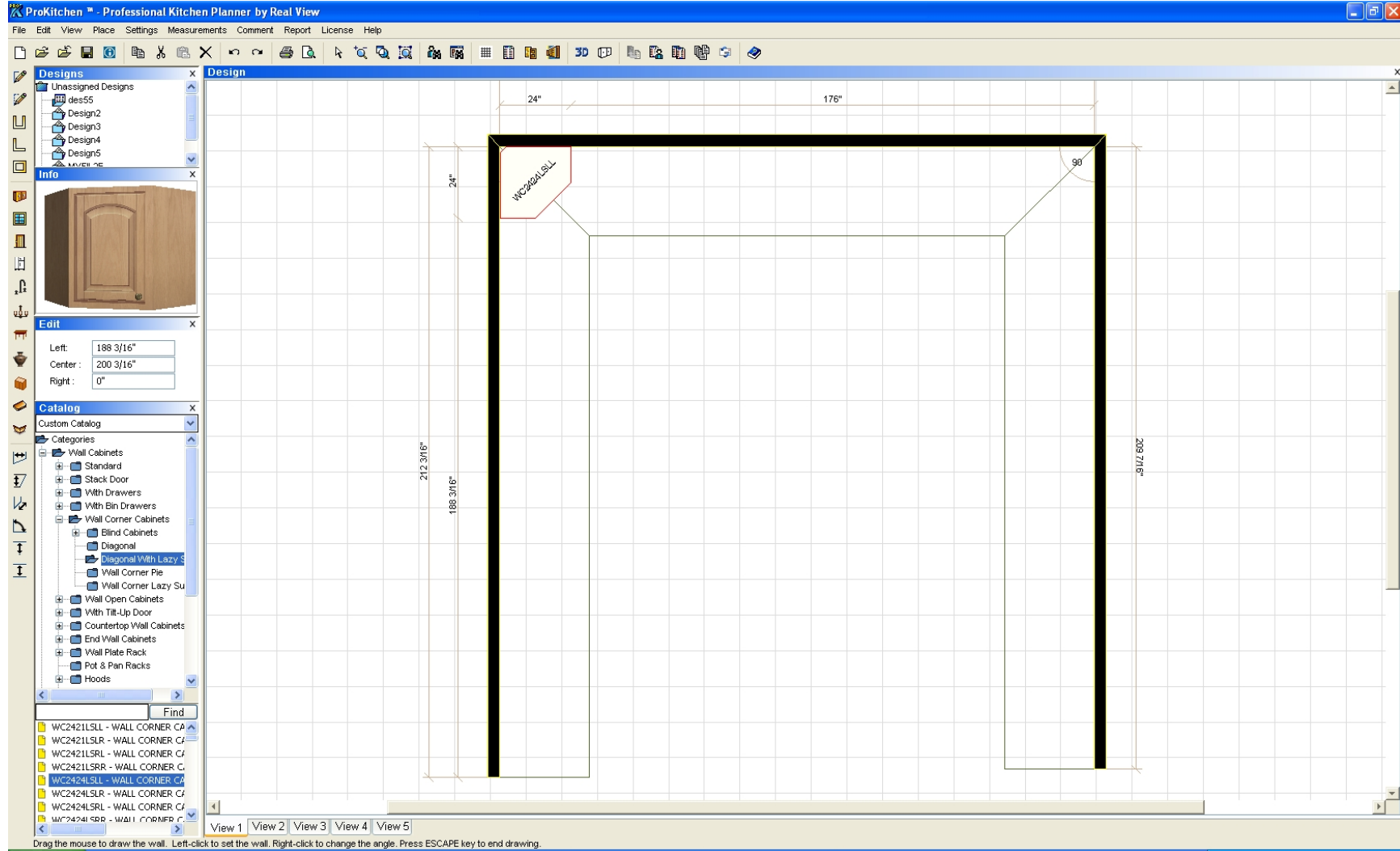
individually be found elsewhere; the question is whether the selection and arrangement embodied in that program has been copied by ProKitchen.

- r. Mr. Abbott addresses this in passing by offering screen shots of four programs (KitchenDraw, Chief Architect, SolidWorks, and AutoCad), without further comment. For a more detailed comparison, I present below screen shots from all eight of the kitchen design program, showing each as it looks when a new design has begun, with three walls defined and the first cabinet (or other object) placed. (Having something in the design offers a more detailed comparison.) The similarity between the overall layout of 20-20 Design and ProKitchen is clear; the relative dissimilarity with the other programs is also clear.

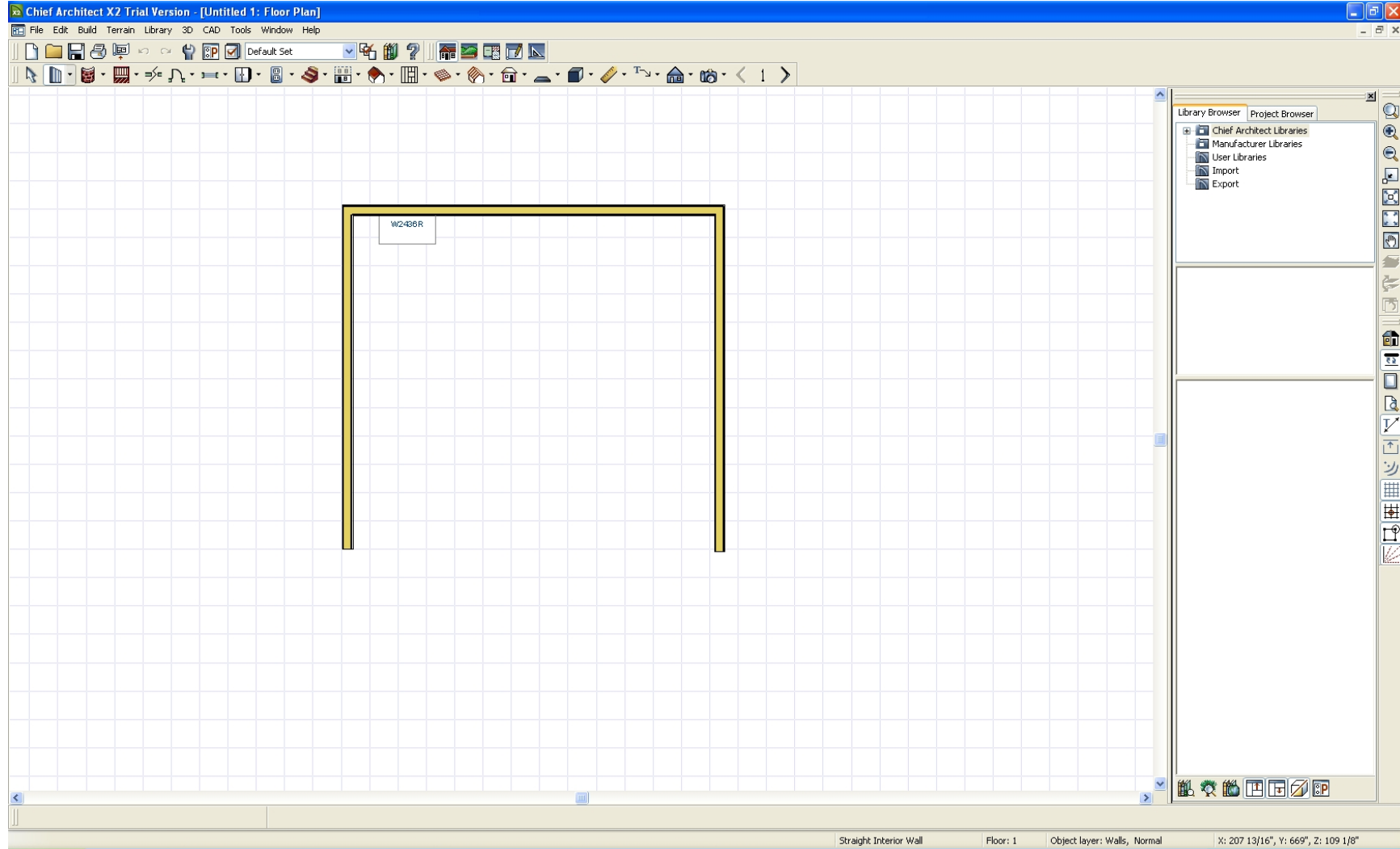
20-20 Design, Version 6.4



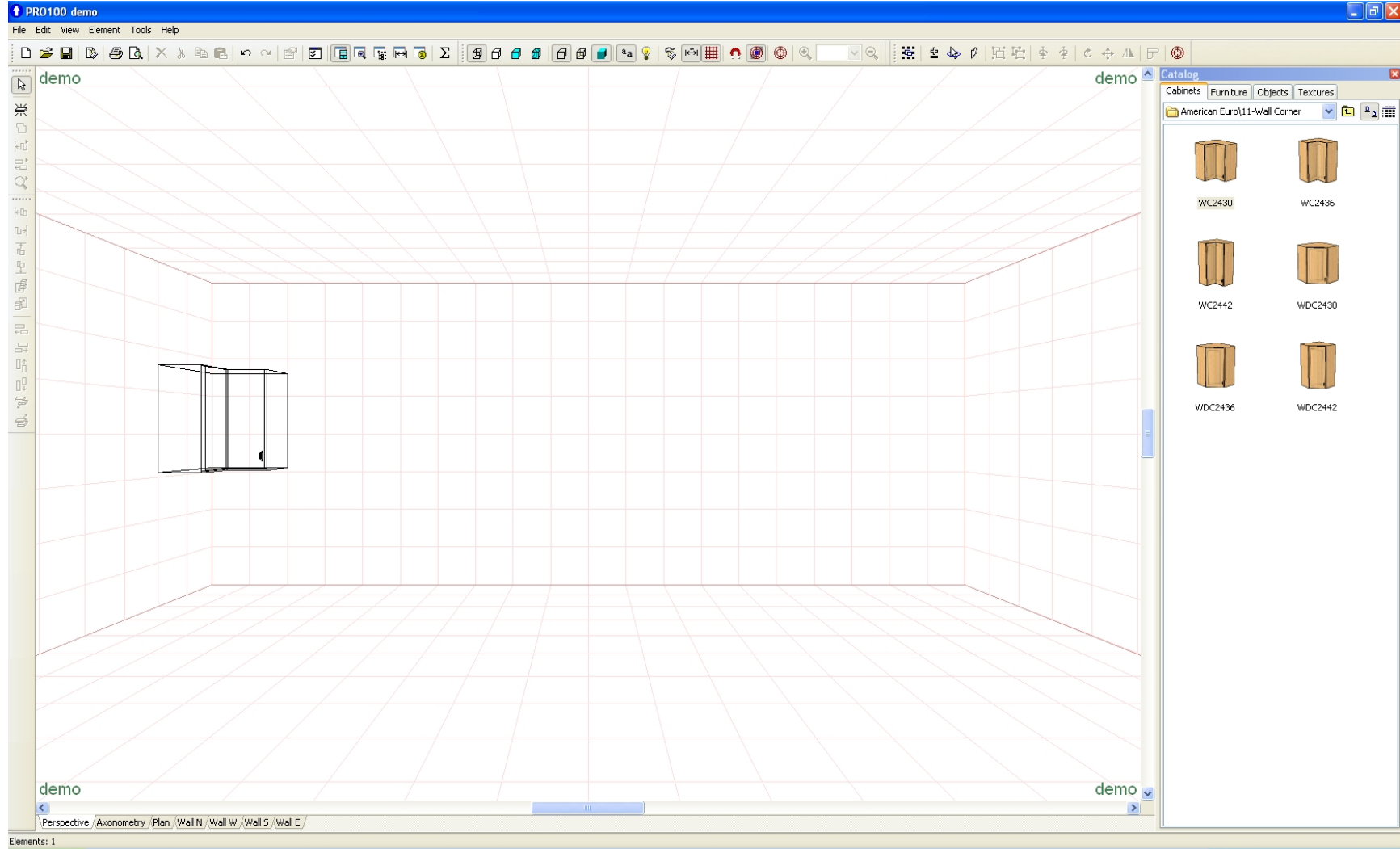
ProKitchen, Version 3.0



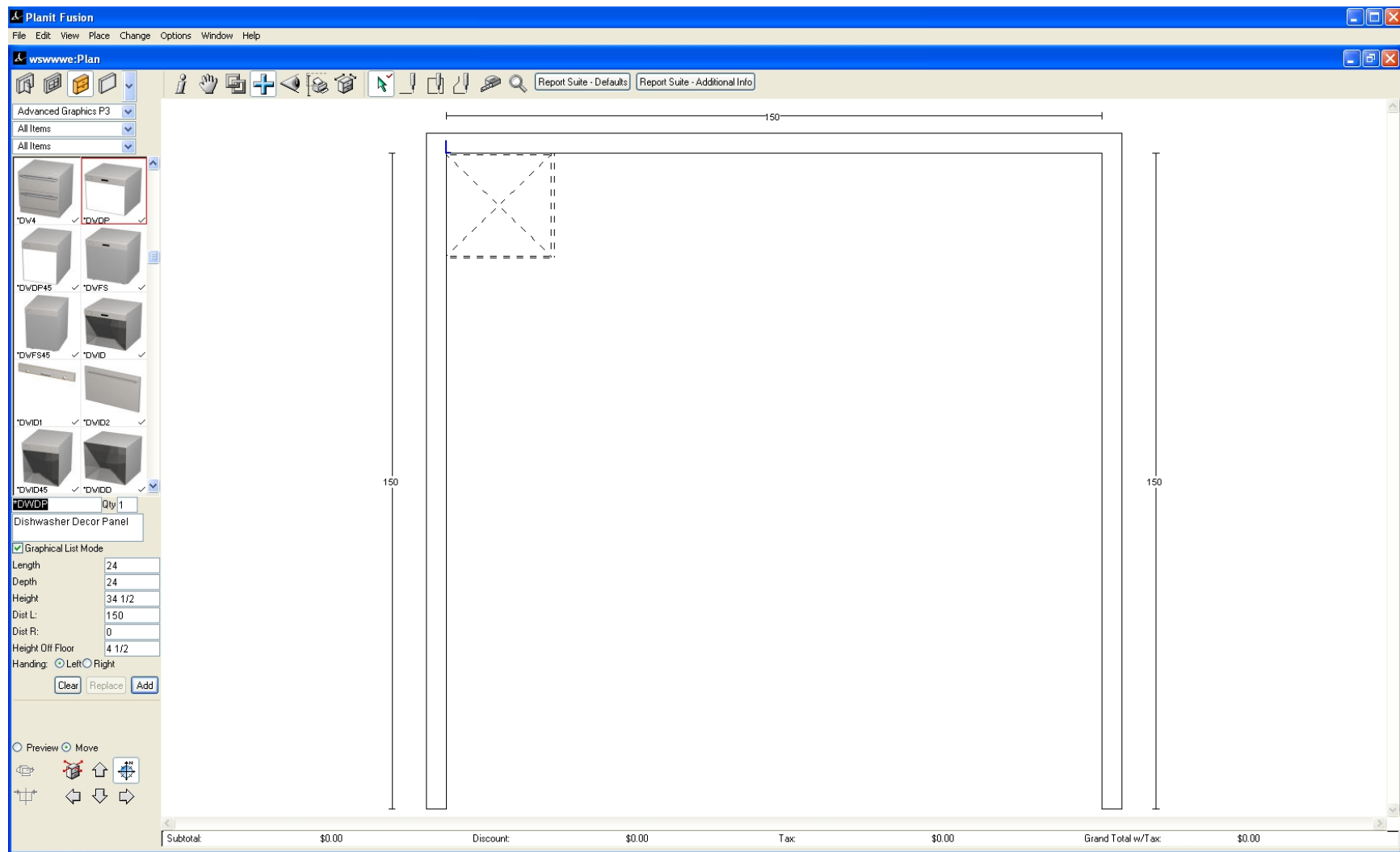
Chief Architect



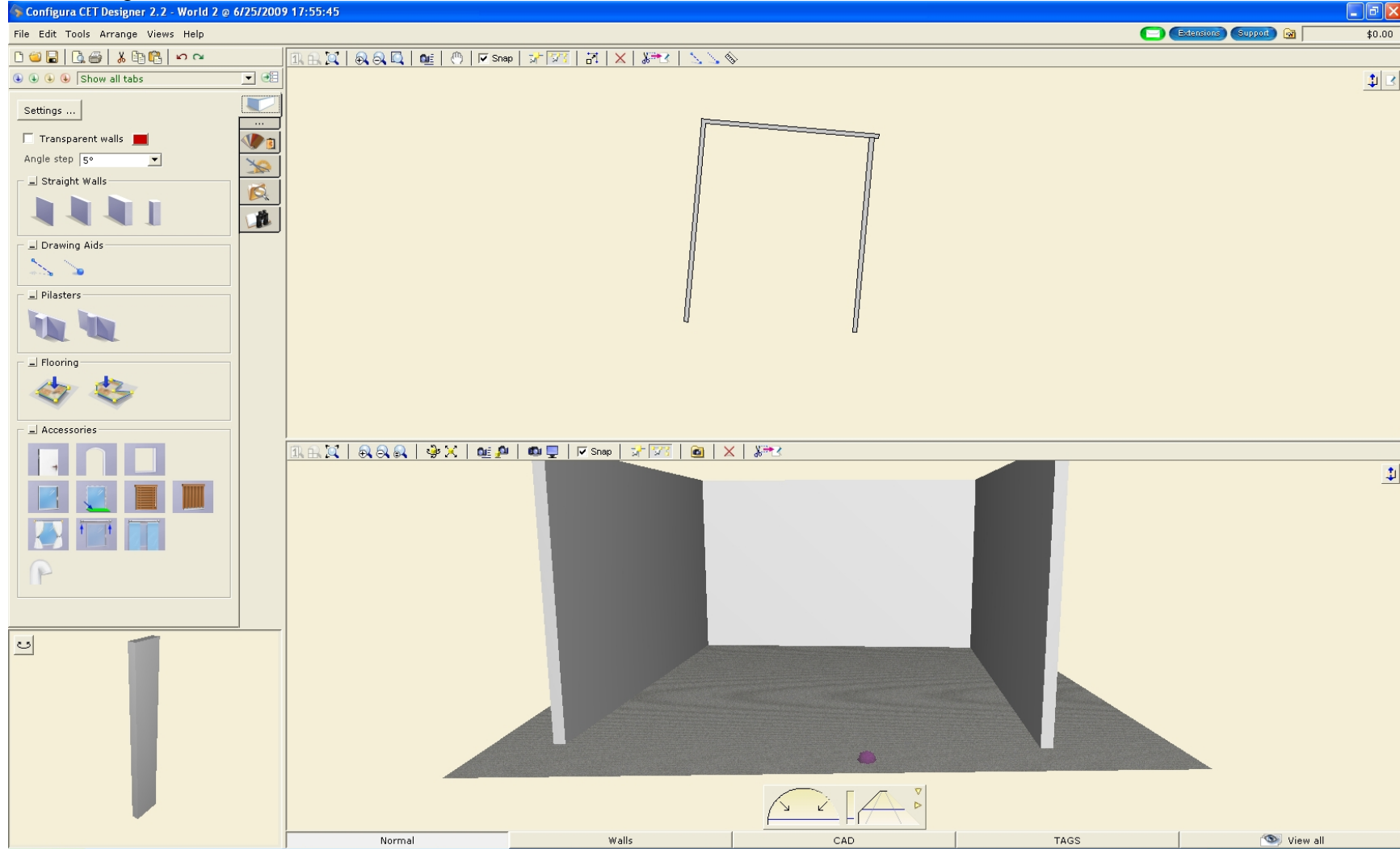
Pro100



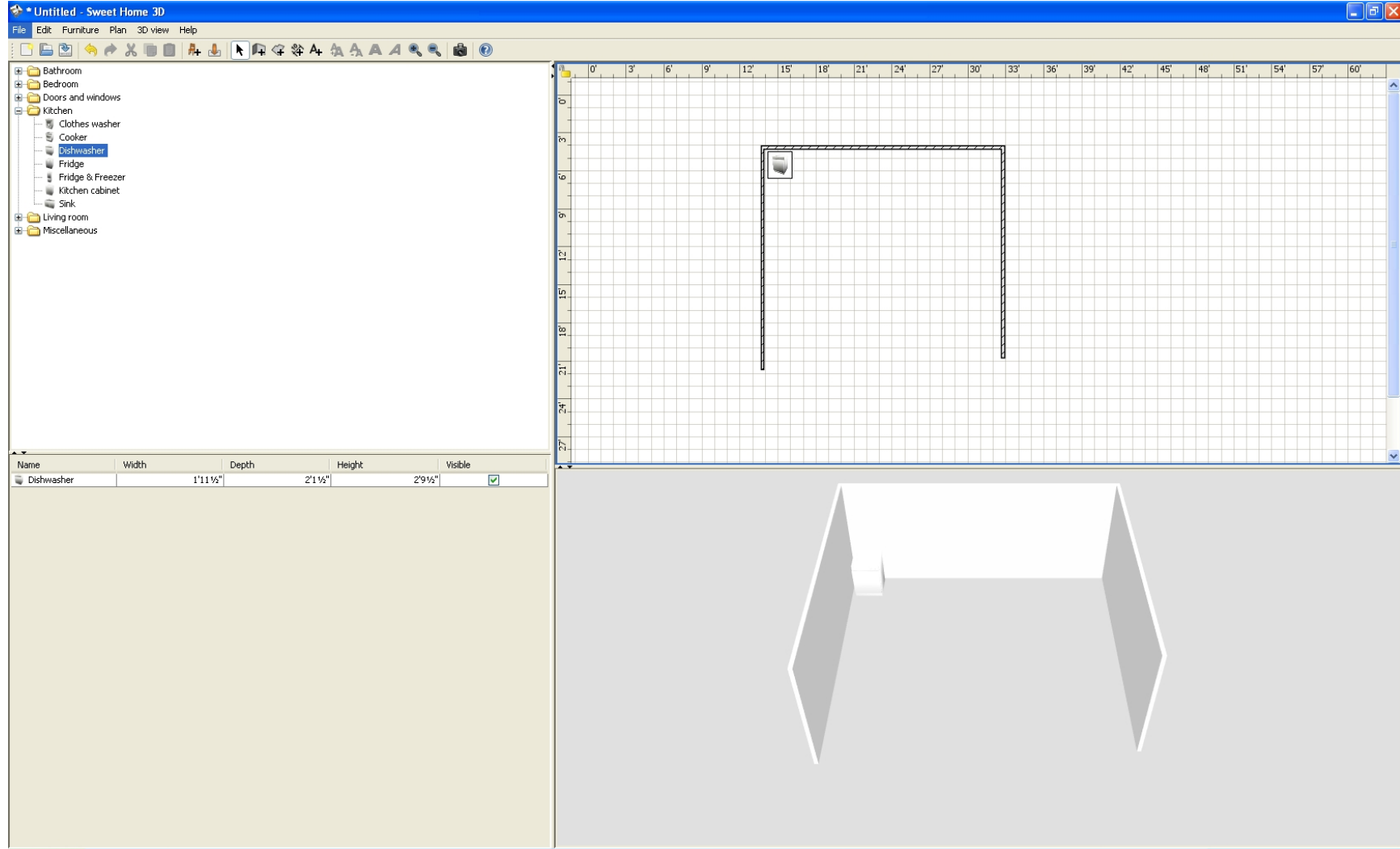
Planit Fusion Live



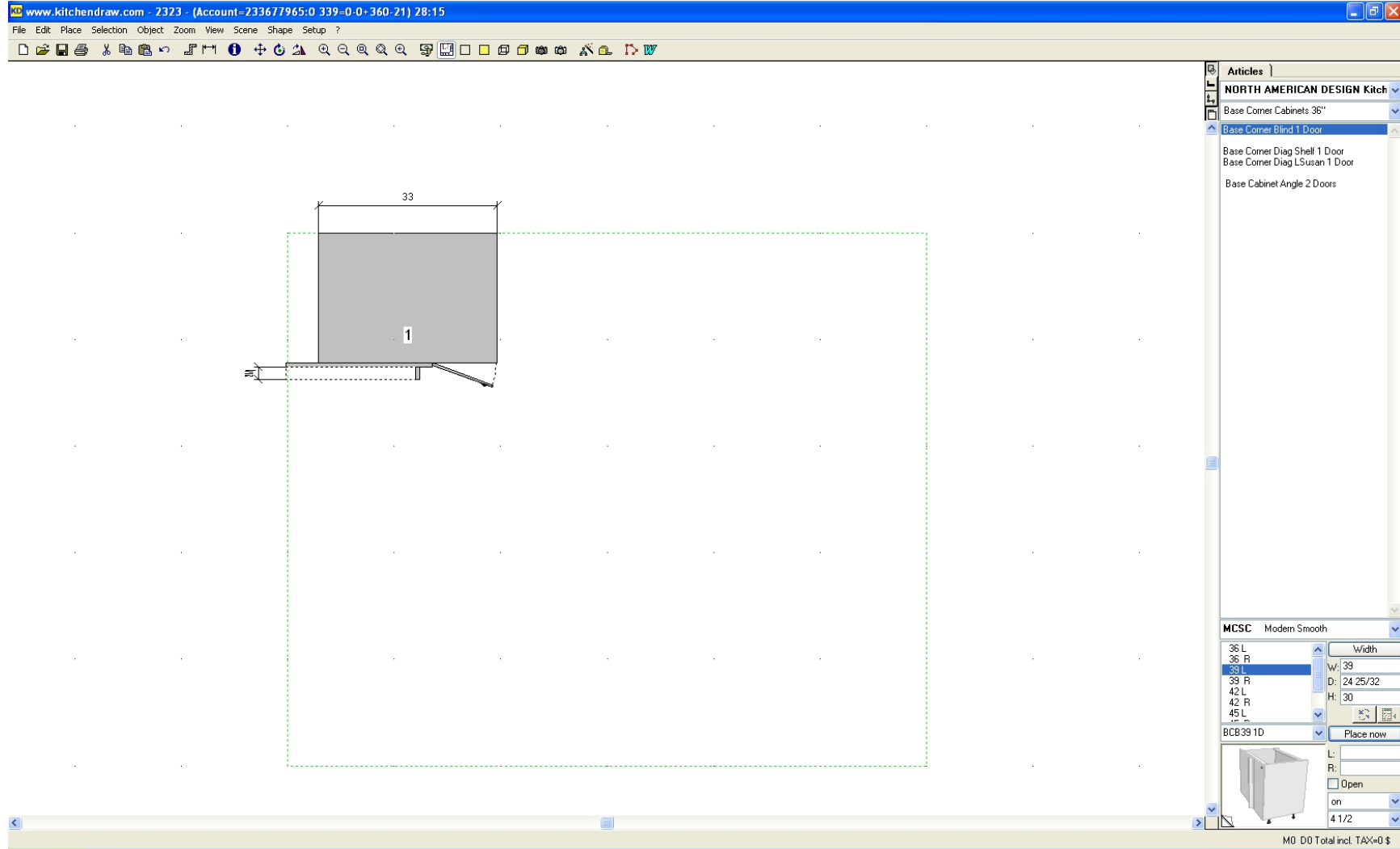
CET Configura



Sweet Home



KitchenDraw 5.0



CONCLUSIONS

149. In summary, the Real View Documents are unsuccessful in their attempts to argue that the similarities between the two programs should be filtered. Their arguments fail for a number of reasons, including because they create their own, generalized straw-man versions of the similarities I cited in the Davis Report, because they ignore the expressive aspects of 20-20 Design, because they must find individual elements of 20-20 Design in numerous different programs, but can never cite a program other than ProKitchen that offers the same selection and arrangement of elements, because they offer arguments that are irrelevant to the issue at hand, and because they apply what appear to be novel (and unsubstantiated) criteria for filtration.

150. The program examples they cite are for the most part unsuccessful because they concern their own generalizations of the similarities, not the specific similarities I pointed out, and because they rigorously avoid comparing to programs intended for the same market, namely computer aided sales for kitchen designers.

151. As a result of the failure of the filtration proposed in the Real View Documents, an abstraction, filtration, comparison analysis of the two programs demonstrates substantial similarities at the level of detailed expression in the two programs.

152. Finally, the detailed expression common to the two programs that is discussed above goes much beyond menu commands, and concerns among other things, issue of choice, selection, and arrangement of expressive elements of the screen layout, display, and appearance.



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